SAVING THE NEXT BILLION FROM OLD AGE POVERTY

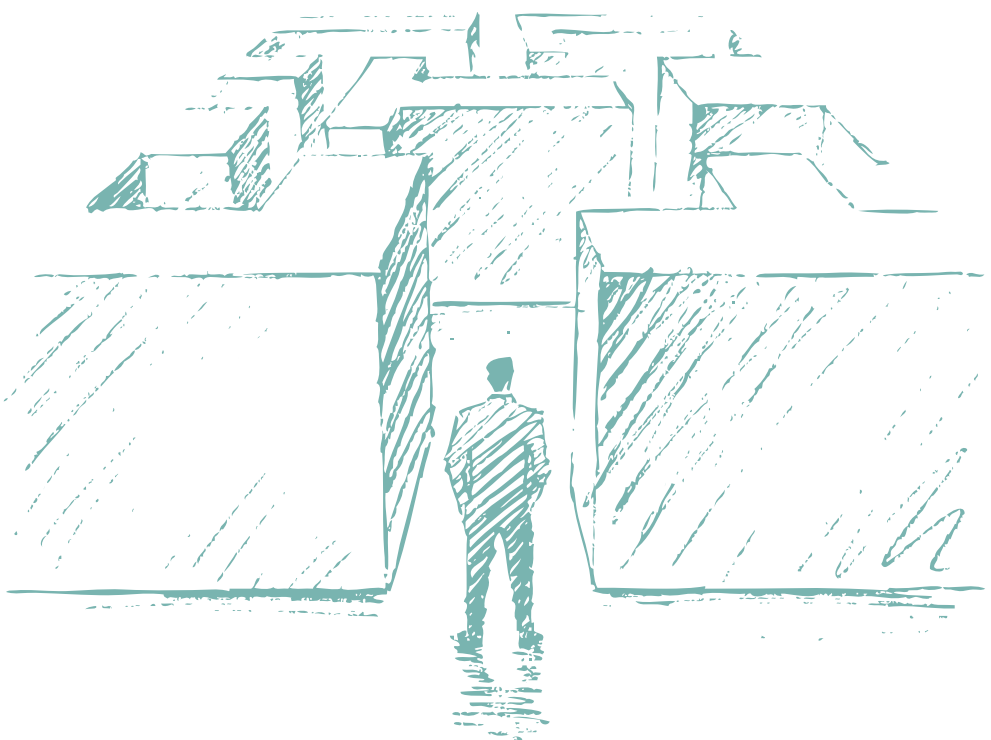
global lessons for local action

EDITORS
PARUL SETH KHANNA
WILLIAM PRICE
GAUTAM BHARDWAJ

18
MANAGING COSTS AND **OPTIMIZING OUTCOMES**

MIKE HEALE
PRINCIPAL, CEM BENCHMARKING

PAUL MARTINIELLO
DIRECTOR, CEM BENCHMARKING



FIVE KEY INSIGHTS FOR POLICYMAKERS

1. FOCUS PROGRAM DESIGN ON MAXIMIZING VALUE FOR PLAN MEMBERS.

- Pension plans should have one overriding design objective: long term savings for retirement security. Micro-pension programs with multiple savings goals may improve financial inclusion but they are unlikely to generate much retirement income.
- High cost models that reward financial intermediaries but do not add value for plan members should be avoided.
- Carefully targeted and simple government financial incentives, such as contribution matching, can be powerful motivators for attracting members and keeping them enrolled.

2. AIM FOR ECONOMIES OF SCALE.

- Big pension funds generally outperform small funds – in large part due to lower costs.
- Micro-pension programs should target broad segments of the population using multiple channels that are effective in the informal economy (examples include, industry associations, self-help groups, and micro-finance institutions).
- New pension plans can take a long time to attain scale. Programs in small countries will be too small to be cost effective even when universal coverage is targeted. Consideration should be given to utilizing existing domestic institutions such as social security and civil service pension funds.

3. ASSET MIX DRIVES RETURNS. IT SHOULD BE MANAGED BY PROFESSIONALS.

- Stocks should be part of the asset mix. Equities generate significantly higher long term returns than fixed income investments.
- Asset mix constraints, such as limits on equity weights and foreign holdings, will not produce the best long-term outcomes for plan members.
- Limit or eliminate investment choices by plan members. Individuals do not make optimal asset mix decisions. Life-stage, target-date, and similar balanced fund programs that members are automatically directed to, based on their age, will produce better outcomes.

4. UNDERSTAND HOW ACTIVE MANAGEMENT CAN ADD OR SUBTRACT VALUE.

- Market returns, less a small cost drag, achieved via passive investing, should produce 'good' long-term outcomes, especially relative to typical retail investments such as bank savings accounts.
- However, many pension funds in the CEM database have added significant additional value by employing cost-effective active management strategies (often using in-house management teams). In contrast, many funds utilizing high-cost active management strategies have generated negative net value added.

5. EFFECTIVE MEMBER SERVICE AND COMMUNICATION PROGRAMS IMPROVE PERFORMANCE.

- If members appreciate the value of their plan, contributions will be higher and withdrawals lower. Communications should focus on simple reinforcing messages delivered repeatedly through multiple channels.
- The micro-pension environment will not support costly high-touch personal service delivery. Technology and innovation are required to provide effective and lower cost communication and service alternatives.

INTRODUCTION

Expanding pension coverage to include informal economy workers is incredibly important. Today, over 1 billion excluded workers worldwide face the bitter prospect of abject poverty in their old age. Thus, eliminating unnecessary costs and optimizing performance is vital for success in expanding pension coverage in the informal economy. However, there are many formidable challenges. People with low incomes must be persuaded to think long-term, and invest for their old age while they are faced with considerable and pressing immediate needs. Therefore, plan contributions can only be expected to be low and intermittent. The term 'micro-pensions' is a well-suited generic description. Relative to pension plans in developed countries, account balances will be extremely low. Eliminating all costs that do not produce value for plan members is essential. The innovative use of technology will be vital for overcoming these challenges and driving out unnecessary costs.

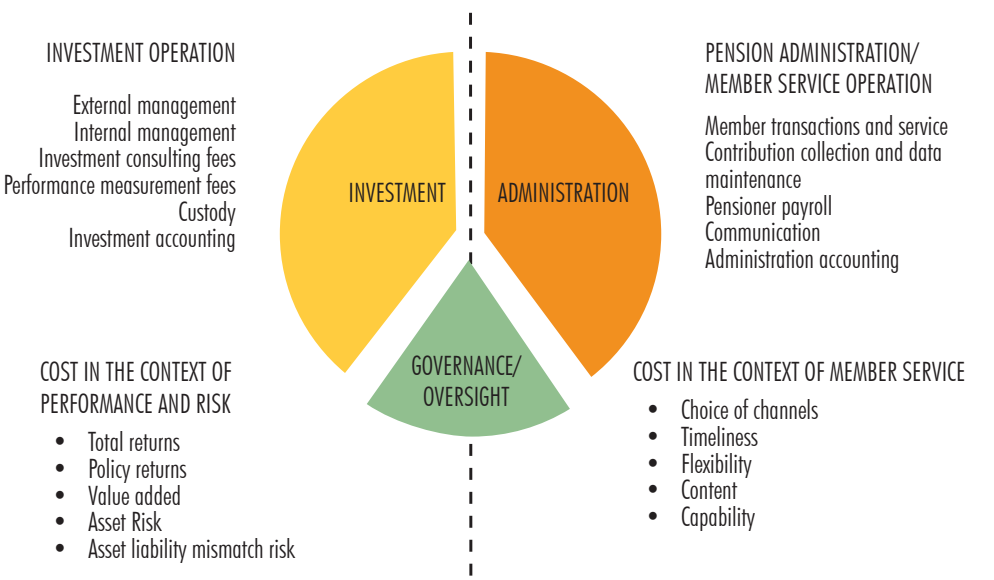
This chapter will focus on applying lessons learned in developed pension systems to the challenges of expanding coverage in the informal economy. These lessons include high cost practices to avoid as well as approaches that can be replicated successfully. The focus will be on pension fund characteristics and operating strategies that have been proven to create value and how these might be applied to micro-pensions.

THE CEM DATABASES AND **BENCHMARKING MODEL**

CEM Benchmarking (CEM) is an independent benchmarking company that has collected detailed cost and performance data from defined benefit (DB) and defined contribution (DC) pension plans, social security buffer funds, and sovereign wealth funds (SWF) since 1991. CEM collects annual cost and performance data from these organisations. Pension funds work with CEM to benchmark their costs, performance, and risk levels and to demonstrate their value proposition.

Comparisons of detailed investment and pension administration operating costs are central to the benchmarking exercise. However, costs are neither inherently good nor bad. Performance metrics are also evaluated in order to answer the fundamental question: "do you get reasonable value in return for what you pay?" Figure18.1 illustrates this 'value for money' benchmarking model for a typical pension fund in the CEM database.

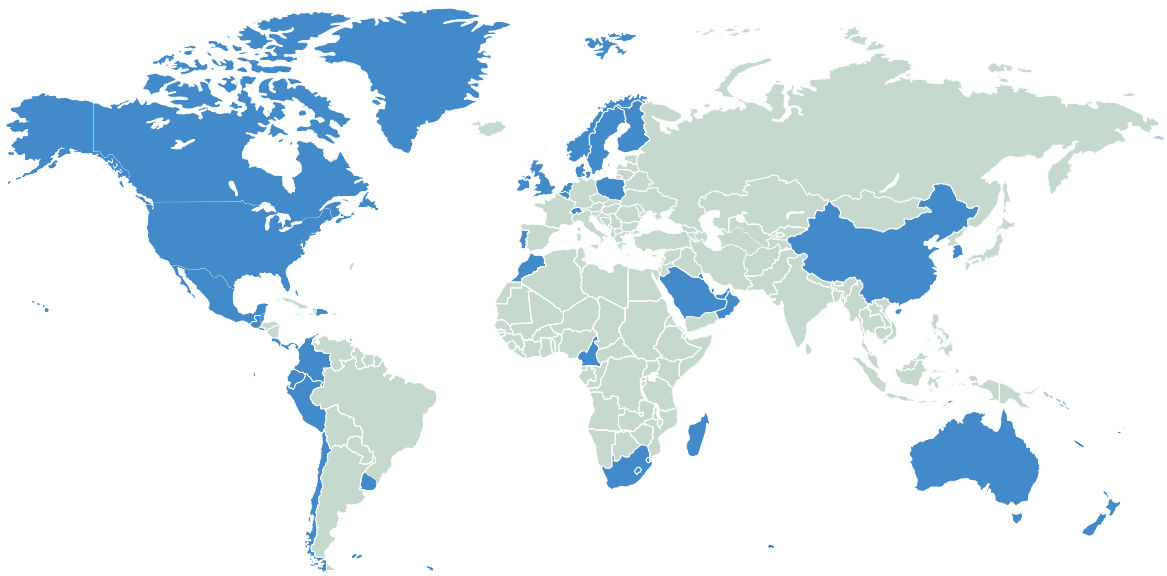
Figure 18.1
CEM Pension Benchmarking Model



Governance and Oversight costs are split between the Investment and Administration Operations:
Senior Management
Trustee boards/ Governing bodies, Actuarial, legal, audit fees

The CEM benchmarking databases have become increasingly global over time. Countries with participating funds during the past three years – from North America, Europe, Latin America, the Caribbean, the Middle-East, Africa, and Asia-Pacific – are shown shaded in blue in Figure 18.2. More than a thousand unique funds have participated at some point in the past 25 years and 452 funds, representing almost USD 9 trillion[1] of assets under management (AUM), provided data for the 2015 data-year.[2] Average fund size in 2015 was USD 27 billion of AUM and the size range was wide: from USD 50 million to over USD 800 billion.

Figure 18.2
Global Representation in the CEM Pension Fund Benchmarking Database



The CEM benchmarking databases include detailed investment and pension administration performance and cost data from a wide range of countries and individual plans. Here is a brief description of the various CEM database cohorts drawn from in this chapter:

- 25 years of investment performance and cost benchmarking data for global DB funds (mainly), buffer funds, and SWF's (Global IBD). This database is a robust source of detailed investment performance and cost data and has been used extensively by CEM and academics for investment research studies. More details about the Global IBD as well as key investment performance and cost insights are included in Appendices A, B, and C.
- 19 years of investment performance, plan structure, and demographics, as well as cost data, for DC plans in the United States (U.S. DC).
- Three years of investment performance, plan demographics, and cost data for DC plans in Latin America (Latin America DC).

[1] Unless otherwise noted, all AUM and contribution amounts are reported in U.S. dollars in this chapter.
[2] Unless otherwise noted, 31st December 2015 is the end date for all time periods cited in this chapter.

- 17 years of plan structure and demographics, transaction volume, service levels, and cost data for global DB plan administrators (Global DB pension administration). The most robust cohorts represented are: U.S., Canada, the Netherlands, and the United Kingdom.
- Plan structure and demographics, transaction volume, service levels and cost data for Australian DC plans over an eight-year period (Australian DC pension administration).

Most CEM database participants are large, mature pension plans from OECD countries.

CHALLENGES IN THE **MICRO-PENSION ENVIRONMENT**

Plan design, size, and operating structures reflect their varied economic, demographic, tax, and regulatory environments. Their experiences can provide important lessons for developing countries – some of which are practices to emulate and some that are best avoided. However, there are also profound differences between OECD countries and developing nations on many of these dimensions. Lessons from OECD experiences are, therefore, not easy to apply directly to a developing country context.

Most pension funds in the CEM database are not-for-profit organizations with public sector, corporate, or industry-sector (for example, multi-employer construction industry funds) sponsors. Plan sponsors have an implicit or explicit fiduciary duty to manage their plan in the best interest of their members. Typically, plan members are employees of the sponsoring organization or group and participation in the plan is often compulsory. Plan contributions are also typically defined, sometimes with voluntary supplemental components, and contributions are made via the sponsor's payroll system. Most members pay tax on their income and there are generally tax advantages for saving via pension plans. These tax breaks make plan participation more attractive and additional voluntary contributions more appealing. There are also typically tax benefits for keeping money in the pension plan until retirement. This pension delivery model, as well as general economic and commercial conditions, gives funds in OECD countries distinct advantages relative to developing countries.

There is a clear global trend favouring defined contribution plans. Worldwide, many corporations have replaced their DB plans with DC plans. For many years most new global pension systems and plans have been DC in nature. It seems likely that DC will be the primary plan type chosen for initiating micro-pension plans in the developing world – although see Chapter 19 on Inclusive Micro Insurance for examples of experience with different product features.

The key features of two well-established defined contribution systems will be examined:

- the United States employer-sponsored system, and
- the government-approved provider system utilized by several Latin American countries.

Their plan features, operating environments, and performance will be compared to available micro-pension plan data.

In addition to the DC data, the CEM databases include a large amount of DB performance data for both investment and pension administration operations. Many of the performance and cost insights derived from this DB data are also directly relevant in a DC context. Therefore, the Global IBD and Global DB pension administration databases will also be used for comparisons and analysis.

DEFINED CONTRIBUTION PLANS IN THE UNITED STATES

The U.S. DC database includes 19 years of detailed cost and performance data from a robust sample of plans. These plans are 'sponsored' by corporate and public sector employers. Plan membership is linked to employment and coverage is not universal – employers are not required to establish plans. Key demographics for the U.S. DC database for the 2015 data-year were as follows:

- 137 plans: 114 corporate; 23 public sector
- Total AUM: USD 859 billion
- Plan Size: Average of USD 6.3 billion; Median of USD 4.2 billion; Range from USD 64 million to USD 46 billion
- Average number of plan members: 53,327
- Average annual contribution to member account (combined employer and employee): USD 12,000
- Average individual member account balance: USD 138,000
- Average annual total plan cost, including investment management and record keeping/ member services:
  - 0.32% of AUM
  - USD 393 per plan member

A few observations on these results and the key factors that drive them:

- Annual contributions averaged about USD 12,000 per member in 2015, reflecting relatively high wages and savings capacity of plan members; the willingness of employers to contribute on their behalf; and, the tax advantages of plan contributions. Workplace centred communications are used to encourage participation and higher contribution levels. Common plan features such as auto-enrolment and auto-escalation of contributions are also effective strategies for improving participation and contribution rates.
- Balances accumulate tax-free in plans and there are limitations or tax disadvantages for withdrawals prior to retirement.
- Plan costs are much lower than the cost of comparable retail savings products available to individuals in the United States. Delivering below standard 'retail' price is essential for

the coverage expansion envisaged in this volume to be successful. Plan members benefit from scale economies and the negotiation power of plan sponsors. In addition, the market for investment and record keeping services for employer sponsored DC plans is large and competitive.

- These employer sponsored DC plans are not-for-profit organizations and generally have defined, 'captive' members. They do not incur costs for sales, marketing, and profit margins. Competing for members and generating profit for shareholders increases the cost drag of pension schemes.

DEFINED CONTRIBUTION PLANS IN LATIN AMERICA

Nine countries in Latin America have mandatory DC systems. These countries 'charter' pension providers who compete for plan members. The providers are commercial, for-profit organizations. This system was first implemented in Chile over 35 years ago and subsequent versions of it have been implemented in Colombia, Costa Rica, the Dominican Republic, El Salvador, Mexico, Panama, Peru, and Uruguay. The mandatory nature of these systems means that pension coverage is very high in the formal sector of their economies. However, pension coverage is generally very low in the informal sectors of their economies.

Key aggregated demographics for the DC systems in these nine Latin American countries for 2014 were as follows:

- 47 fund providers with an average of five in each country
- Total AUM: USD 470 billion
- Total plan members: 82 million (47% active)
- Provider Size: Average of USD 10 billion; Median of USD 4 billion; Range from USD 100 million to USD 43 billion
- Average number of plan members per provider: 1.7 million
- Average annual contribution to member account: USD 1,000
- Average individual member account balance: USD 6,000 (includes active and inactive accounts)
- Average annual total plan cost, including investment management, record keeping/ member services, as well as marketing, sales, and profit margin:
  - 1.16% of AUM
  - USD 60 per plan member

A few observations on these results and the key factors that drive them:

- The providers are large – average size of USD 10 billion and 1.7 million members – this helps to keep costs low.
- Annual plan contributions are far lower than for the U.S. DC plans and reflect lower wages and savings capacity.

- Average member account balances reflect contribution levels and the maturity of some of the pension systems – that have existed for only a few years. Contributions accumulate tax-free in the plans and withdrawals are generally only allowed for prescribed life events (e.g. partial withdrawals are allowed when purchasing a home in some countries).
- The average cost of 1.16% of AUM is considerably higher than the 0.32% average plan cost reported for U.S. DC plans. Part of this cost differential is due to the additional costs associated with a for-profit system where providers compete for members.

MICRO-PENSION PLANS

Pension coverage in developing countries involves the considerable challenges of a predominately informal labour market. The vast majority of people are not permanent employees of a corporate or public sector employer. Income or wages are typically received in cash and are generally low and uncertain. Immediate needs are pressing and savings capacity is limited. There are very low levels of financial literacy. Many people do not have bank accounts. Immediate tax incentives for pension savings are not relevant as most people do not pay income tax. The micro-pension environment is formidable. There are many challenges to overcome.

Contribution levels for informal economy workers can only be expected to be much lower than plans in developed countries. One issue for micro-pension plans with low contribution levels is how to achieve real scale, especially if established on a stand-alone basis. Size is important, therefore, bigger funds generally outperform smaller funds, largely due to lower costs. Partnering a micro-pension system with an existing pension fund, such as social security or civil service pension funds, should be considered as an immediate way to realize scale economies.

The U.S. DC and Latin American DC plans described above benefit from meaningful tax incentives to get money into plans and to keep it there until retirement. Full or partial matching of individual contributions by a plan sponsor is also a powerful financial incentive for individuals to increase contributions in voluntary plans. Targeted government subsidies or matching programs should be considered to encourage workers to enrol in micro-pension systems. Keeping the money invested in these plans until retirement will also be challenging. Vesting periods for government-matched contributions is one approach that could be helpful.

Micro-pension systems globally are in their infancy. Several new programs are being planned. Very few plans are operational and these were implemented recently. Consequently, there is a scarcity of published data available about micro-pension operating experiences. Recently established programs in Kenya and India, where published data is available, will be explored next.

KENYA MBAO PENSION PLAN (MBAO)[3]

In June 2011, the Retirements Benefits Authority of Kenya (RBA), along with the National Federation of Jua Kali Associations launched Mbao, an innovative program using cell phone technology for extending pension savings plan coverage. Jua Kali is Swahili for 'informal sector'. In Kenya, about 80% of the labour force is in the informal economy, including agriculture, tradespeople, and many small businesses.

Investment management, administration, custody, and money transfer services for Mbao are provided by separate private sector companies. See Chapter 2 on Kenya for more details.

Mbao is a voluntary individual savings plan which is open to all workers in Kenya over 18 years. It is designed to provide a defined contribution program that is tailored to the specific needs of the informal sector. There are two simple requirements for joining: a copy of a National Identification Card or Passport and a registered mobile phone. Contributions are made electronically by loading cash onto a mobile phone and remitting to Mbao. A key feature of mobile money for pensions and other transactions in the informal sector is its convenience. Mobile phone companies in Kenya have established very successful mobile money systems. In 2012, there were more than 70,000 mobile phone company agents throughout Kenya, compared to about 800 bank branches. Only 24% of Kenyans had bank accounts but 75% of the adult population had mobile phones in 2012. The mobile phone companies charge transaction fees for Mbao transfers, but these are relatively low, especially considering the low dollar amounts involved.

Contributions are very flexible and can be made as frequently as daily. The minimum amount is only 20 Kenyan Shillings, which is about USD 0.20.[4] Mbao has tax exempt status and money is not generally taxable at exit. To discourage withdrawals, benefits are accessible after a minimum number of years that are tied to a member's age. Member contributions are directed to one balanced fund that is invested in a mix of Kenyan government bonds, bank fixed-term deposits, corporate bonds, and cash. Up to 60% of a member's Mbao account balance may be used as security for a mortgage loan on a house. Mortgage lending in Kenya without this backing generally requires a down payment of 10% of the purchase price of the house. This plan feature is a key incentive for attracting members. When the Mbao pension plan is used for this purpose, the member cannot make a withdrawal from the plan until the mortgage is paid off. Costs incurred by members include mobile money transfer charges and an annual account charge of 0.95%. However, as an added incentive for joining the plan, the annual account charge is waived for the first three years.

As of 30th June 2015, Mbao pension plan membership had reached 65,301 with a fund value of just over USD 1 million and an average account balance of about USD 16.

---

[3] Sources for Kenya Mbao Pension Plan descriptions and data are:
- Kenya Retirement Benefits Authority, Annual Report & Financial Statements 2015
- Rose MusonyeKwena and John A Turner. 2013. "Extending pension and savings scheme coverage to the informal sector: Kenya's Mbao Pension Plan." ISSA Social Security Review, Volume 66, 2/2013.

[4] Conversions of Kenyan shillings to USD were done using official rates posted by the Kenyan Central Bank for 30th June 2015.

INDIA ATAL PENSION YOJANA (APY)[5]

The informal sector represents 88% of India's total labour force. The Government of India (GOI) first introduced a DC plan, Swavalamban, for the informal sector in 2011. The Swavalamban scheme was discontinued though, partly because of a desire in the target market for a guaranteed pension benefit at retirement. At that point, in 2015, the GOI introduced a new scheme called Atal Pension Yojana (APY). Swavalamban subscribers aged 18-40 are automatically migrated to the APY Scheme (with the ability to opt out). For more details see Chapter 1 on India.

APY is a defined benefit plan that is administered by the Pension Fund Regulatory and Development Authority (PFRDA) utilizing the architecture of the Indian National Pension System (NPS). Under the APY, a monthly pension that is guaranteed by the GOI is paid to subscribers at retirement. Required contributions are tied to a subscriber's age at plan entry and the targeted annual pension (in INR): 12,000, 24,000, 36,000, 48,000, or 60,000 (from USD 675 to USD 3,374).[6] APY is open to all bank account holders and regular contributions must be done through automatic debits. The APY forms part of a wider push to expand participation in bank accounts and insurance known as PMJDY – which has seen over 250 million bank accounts opened and over 120 million insurance policies issued. So it is able to leverage important advancements in financial inclusion for informal economy workers – which is an important objective of the GOI. The minimum age for joining APY is 18, the maximum age is 40 and the pension is payable at 60. Therefore, the minimum contribution period for an APY subscriber is 20 years.

With the launch of APY, the GOI announced a 'time limited offer' to incent enrolments. Subscribers who joined in the first six months were eligible for a GOI co-contribution of 50% of their annual contribution amount, up to USD 56, for five years until 2020. This offer window was later extended for three months to 31st March 2016. Though the eligibility for the central government co-contribution has now expired, a few Indian state governments have announced a matching co-contribution for subscribers joining the scheme in the next three years.

At 31st October 2016, APY had attracted more than 3.6 million subscribers and total AUM exceeded USD 706 million. The Indian pension fund regulatory authority, PFRDA, is reviewing strategies to increase coverage into the scheme.

The micro-pension plans and DC systems described above are clearly at various stages of maturity and operate in environments that range broadly across the economic spectrum: from the high living standards and wages in the U.S. to the poorer informal sectors in Kenya and India. Available key summary metrics for U.S. DC plans, Latin America DC plans, Kenya Mbao, and India APY are compared in Table 18.1. Comparisons of contribution levels and account balances clearly illustrate a key challenge for micro-pension systems: the

[5] Government of India Pension Fund Regulatory & Development Authority (PFRDA) National Pension System (NPS). 2016. https://india.gov.in/spotlight/national-pension-system-retirement-plan-all

[6] Conversions of Indian rupees to USD were done using OECD Purchasing Power Parity (PPP) rates for 2015.

imperative to deliver investment management, plan administration, money transfer, and other services at low cost. Note that the USD 393 average annual total plan cost per member for U.S. DC plans is much higher than the average member account balance for Mbao and the AUM per plan member for APY! Even with much lower business costs in India, Kenya, and other developing countries, it is clear that low cost delivery of these services in a micro-pension environment is a necessity.

Table 18.1
Comparison of Selected Pension Metrics across Regions

Pension System	U.S.DC[1]	Latin America DC[2]	NPS Lite/ APY DB[3]	Kenya Mbao[4]
Years since inception of system	35	8-35	1	5
Total AUM	$859 billion	$470 billion	$706 million	$1.1 million
Total plan members	5.0 million	82 million	3.6 million	65 thousand
Average assets per member	$138,000	$6,000	$196	$16
Average contribution per member	$12,000 avg.	$1,000 avg.	$28 to 981	$60 minimum
Average annual total plan cost % of AUM	0.32%	1.16%	Unknown	Unknown
Average annual total plan cost $ per member	$393	$60	Unknown	Unknown

1. Source: CEM database. Data as of December 31,2015.
2. Source: CEM database and International Association of Super visionary Bodies of Pension Funds (AIOS). Total plan cost as of December 31, 2014.
3. Source: National Pension System Trust, Fiscal Year 2015-2016. Data as of October 30, 2016.
4. Kenya RBA Annual Report & Financial Statements, June 30, 2015. Data as of June 30, 2015.
5. Unknown is used because of uncertainty about the completeness and comparability of available cost data.

INVESTMENT MANAGEMENT

ASSET MIX IN U.S. DEFINED CONTRIBUTION PLANS

Asset mix – essentially the split of the portfolio between equity and fixed income – is by far the biggest driver of long-term investment returns. The asset mix decision represents 96% of long-term total returns for funds in the CEM Global IBD. In contrast, the contribution of active management is quite small. This underscores the critical importance of asset mix to pension plan outcomes.

In U.S. DC plans, individual plan members make their own asset mix decisions by selecting from an investment option menu. As outlined earlier, the CEM U.S. DC database includes 19 years of detailed data from a robust sample of corporate and public sector plans.

The average number of investment options offered by U.S. DC plans in 2015 was 16 – typically including a range of equity, fixed income, term deposit, money market, and balanced fund options (e.g. target retirement date, life stage, and risk tolerance based). Target retirement date funds (TDFs) are counted as '1' option.

As Table 18.2 illustrates, U.S. DC plans have under performed their DB counterparts over the 19-year period where CEM database comparisons are possible. The main performance differentiator is asset mix: average annual policy returns were 0.93% lower for the DC plans. For the DB plans, the policy asset mix is set by fund professionals. For these DC plans, asset mix is the result of individual investment option choices and the plan default option for members who prefer not to make a choice. Therefore, DC policy return is calculated as equal to the weight of actual asset class holdings multiplied by asset class benchmark returns.

Table 18.2
U.S. DB versus DC Performance Comparisons

Pension System	DB	DC[1]	Difference
Total Return[2]	7.57%	6.44%	1.13%
- Policy return	6.99%	6.06%	0.93%
- Costs	0.49%	0.40%	0.09%
= Net value added	0.08%	-0.02%	0.10%

1. DC policy return = weight of holdings times benchmark returns.
2. Returns are the geometric average of the annual average of all database participants.

In Table 18.3, we compare average asset mix and annual asset class returns for the U.S. DB and DC plans for this 19-year period. Both DB and DC plans invest in five of the public market asset classes (e.g. fixed income). In these asset classes, DB and DC returns are generally quite similar. They are not the source of the DB out performance. Rather, the performance differential is driven by two factors:

1. Private equity and real assets (mainly real estate) are the two top performing asset classes over the 19 year period. DB funds invested an average of 9% of AUM in these two asset classes. These two asset classes were not available to DC plan members – they were not offered as investment options and they were generally not part of balanced funds offered to members over this time period.

2. DC plan members invested 24% of their holdings over the period in the two poorest performing 'safe' asset classes: guaranteed investment certificates/stable value funds; and cash. In contrast, DB funds invested only 2% of their AUM in cash over the period.

Table 18.3
U.S. DB vs DC Asset Mix Comparisons

Asset Class	Asset Mix[1]		Returns[2]	
(Ranked returns)	**DB**	**DC**	**DB**	**DC**
Private equity	4%	n/a	12.1%	n/a
Real assets	5%	n/a	9.6%	n/a
Small cap stock	6%	8%	8.9%	9.1%
Employer stock	0%	20%	n/a	9.5%
Fixed income	32%	10%	6.5%	5.7%
Hedge funds	3%	n/a	6.9%	n/a
Stock U.S. large cap or broad	24%	30%	7.7%	7.5%
Stock non U.S. or global	25%	8%	6.1%	6.0%
Stable value/GICs	2%	7%	2.8%	2.7%
Cash	2%	7%	2.8%	2.7%
Total	**100%**	**100%**	**7.6%**	**6.4%**

1. Asset mix= arithmetic average of annual asset class weights
2. 19 year returns are the geometric average of the annual average of each asset mix.

These asset mix comparisons also reveal that DC plan members do not diversify their holdings to the same extent as professionally managed DB funds. Total DC plan exposure to U.S. equity was 58% of holdings whereas non-U.S. stock was only 8%. In addition, 20% of holdings were invested in one non-diversified asset: employer stock. In contrast, DB funds were more diversified: 24% of holdings were invested in non-U.S. stock and employer stock was not an asset class for such funds.

The implication of a 1% per annum lower return due to asset mix for a DC plan member is a 20% lower account balance after 19 years. This clearly points to the importance of taking asset mix decisions out of the hands of individual DC plan members and placing it in the hands of investment professionals whose interests are aligned with members. To ensure alignment, investment managers should be selected in a rigorous process by trustees who are focused on the long-run health of the fund and ensuring that adequate benefits are paid to members.

Fortunately, U.S. DC plan sponsors now recognize the problems associated with investment option menus and individual choice and are taking corrective action. TDFs are increasingly the plan default option for members who don't want to make a choice

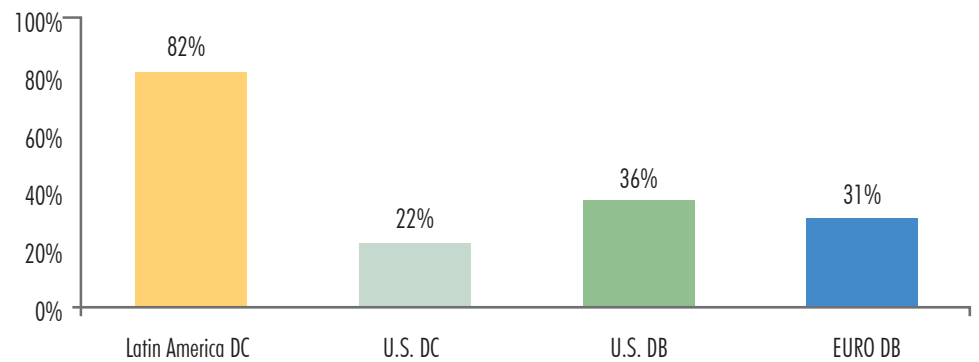
and are featured prominently in plan communication material. There has been a material improvement in portfolio diversification in recent years due to these developments.

ASSET MIX IN LATIN AMERICAN DC PLANS

Certain Latin American DC plans take the investment decision out of the hands of individual plan members. For example, Chilean pension member account balances are invested in a life-stage balanced fund that reflects a generally accepted risk/return profile for their age. Pension members' funds are subsequently shifted from higher risk/higher reward options to lower risk/lower reward options as members get closer to retirement. In Mexico, Colombia, and Peru there are default options for undecided members during the accumulation and de-accumulation phases.

A distinct bias towards less volatile fixed income and cash is the norm amongst Latin American pension providers as illustrated in Figure 18.3 Latin American DC plans hold 60% more in fixed income assets relative to U.S. DC plans. This bias is likely to result in lower long-term returns and pensions compared to asset mixes with higher equity holdings. Consider, for instance, passive investments in global equities and bonds for the 20-year period ending 31st December 2015. Global equities as represented by the MSCI All Country World Index returned 6.4% while global bonds as represented by the broad based Barclays Global Aggregate Index returned 4.5% in U.S. dollar terms. Monies invested in the global equity index over this 20-year period generated 44% more than monies invested in the global bond index. While equities are significantly more volatile than bonds, younger members with long investment horizons are able to take on higher risk levels.

Figure 18.3
Average 2014 AUM% in Fixed Income and Cash

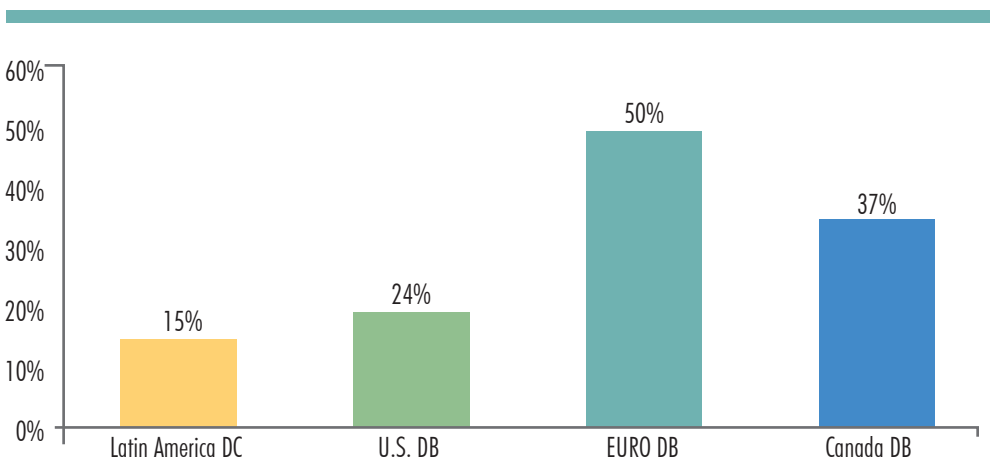


Diversification by asset class and region is another important principle for optimizing long-term reward/risk trade-offs. A lower level of diversification increases risk. Constraints limit the investment opportunity set and have negative performance

consequences. Latin American pension providers are subject to constraints in the form of limits on equity holdings and foreign market holdings.

Foreign market holdings averaged 15% across the nine Latin American pension systems in 2014, ranging from 0% in several countries to a high of 43% in Chile. As illustrated in Figure 18.4, this is a low level of diversification by international standards: Canadian DB funds had 37% and European DB funds had 50% in non-domestic holdings. The general trend across the Latin American countries has been a gradual relaxation of these constraints. This is a positive trend for plan members.

Figure 18.4
Average 2014 AUM% in Non - domestic Holdings



In addition, in several Latin American countries, pension providers are required to generate a minimum annual rate of return that is tied to the returns of other providers in their country. Examples are, Chile, Colombia, El Salvador, Peru, and the Dominican Republic. This requirement moves each provider's investment focus away from optimizing long-term risk and returns for their plan members. Instead, the focus becomes the return providers think they have to deliver in the short term and the consequence is a very similar asset mix and returns across providers (also known as 'herding behaviour').

ASSET MIX CONSIDERATIONS IN THE MICRO-PENSION CONTEXT

The nominal returns realized by the various pension systems represented in the CEM databases translate to real returns ranging from 2% to 5% over most time periods. Similar real rates of returns are possible for micro-pension systems if reasonably similar investment approaches are applied. The reality of current saving choices and returns typically experienced by poor workers in developing countries is very different. Many informal economy workers do not have a bank account. For them, savings means hoarding cash or gold. Over the past twenty years, CPI has averaged about 7% in India and about 4% globally. Hoarded cash guarantees a negative real rate of return,

absent deflation. Those with bank accounts do somewhat better. Savings accounts and short-term deposits are common savings choices, especially for unsophisticated savers. However, real rates of return on these products are generally quite low, in the 0 to 1% range, and in the current low interest rate environment they are now negative in many countries. Clearly, micro-pension plans have the potential to deliver far better retirement savings outcomes for poor workers.

Capital markets in developed countries are generally efficient and robust, in the sense that it is easy to invest in them (including through a range of index funds) and that clear episodes of market dislocation do not appear to be related to systemic factors. Available investment vehicles cover a wide spectrum of opportunities: domestic and global equity; large cap and small cap equity; private equity; government and corporate bonds, both domestic and global; real estate, both public and private, etc. In contrast, many small and developing countries do not have robust capital markets. Public market domestic investment opportunities may be quite limited or nonexistent in some asset classes. For example, investable domestic equity indices do not exist in all countries. In these countries, regional or global equity and fixed income indices are possible alternatives.

Constraints – on asset mix and proportions of foreign holdings – can be another challenging issue. These constraints are typically applied via regulation with goals of fostering the development of domestic financial markets and providing capital for domestic investment programs such as government debt. In new pension systems, negative impacts from 'early-days' market downturns and lack of initial pension investment expertise are additional factors supporting constraints. However, investment constraints have negative long-term implications for pension fund portfolio returns and risk diversification. They should be avoided or relaxed over time. In countries where such constraints have existed (e.g. Latin America), there is a gradual trend towards reducing them.

As the results for U.S. DC plans demonstrate, individuals do not make optimal asset mix decisions, even when they have a reasonable degree of financial literacy and plan sponsors invest in educational communication programs. This financial literacy problem is extreme in the micro-pension environment. General education levels are low and many people have no familiarity with financial services such as banking and insurance. Many poor workers have no experience with any form of savings other than hoarding cash or gold. Opportunities to engage and educate such workers about investment choices are limited. In these circumstances, eliminating or limiting investment decisions by plan members is a better approach. Contributions could be directed automatically to life-stage balanced funds that are typical in the Latin American mandatory DC systems, or perhaps to target date funds.

Individual loss aversion is another important consideration in investment program design. Poor workers will be wary about taking a leap of faith by contributing, given their economic position and low levels of financial literacy. They will not likely react well to losses, particularly in the early years. This is the reason that some countries have

experimented with products that bundle insurance alongside savings (see Chapter 19 on Inclusive Insurance) and others have introduced a rate of return guarantee in defined benefit format for pension savings (see Chapter 1 on India).

The National Employment Savings Trust (NEST)[7] DC plan in the United Kingdom has a well-designed investment program and an interesting approach to the loss aversion problem. When a worker enrols with NEST, their contributions are defaulted to a NEST Retirement Date Fund (RDF), unless they pro-actively select another of the investment options offered. The RDF is based on the year they are expected to retire. For example, if 2050 is the expected retirement date, the member's contribution is directed to the 2050 Retirement Fund. NEST aims to maximise members' accounts by taking appropriate investment risk at different times throughout their saving period. There are three general phases: Foundation – about five years; Growth – about 20 years; and, Consolidation – about 10 years.

The Foundation phase is for people who join NEST when they are many years away from retirement. The aim is to help younger workers develop the pension saving habit and establish their retirement account. The investment focus is on steady growth and trying to avoid the sharp falls in account balances that can shake member confidence. Investment goals in the Foundation phase are described by NEST as follows:

- Keep pace with the cost of living
- Significantly reduce the likelihood of extreme investment shocks
- Take appropriate risks at appropriate times, taking account of economic and market conditions
- Target a long-term volatility average of 7% per annum

The idea is that avoiding early losses and realizing growth in account balances helps to build trust and encourages novices to stay in the program and ideally increase contributions as they gain confidence. Similar low volatility transition approaches seem well-suited to micro-pension programs.

ACTIVE MANAGEMENT AND COST CONSIDERATIONS IN THE MICRO-PENSION CONTEXT

Observations here are based on key empirical evidence from the CEM Global IBD that is outlined in Appendices B and C. Here is a brief summary of these key insights.

On average, passive policy or 'market' returns have generated 96% of long term net returns. Asset mix is very important. More volatile equity asset categories have historically generated significantly higher long-term returns than less volatile fixed income categories. Individuals generally do not make optimal asset mix decisions. Outcomes are likely to be better if contributions are directed or guided to professionally-managed balanced funds.

[7] National Employment Savings Trust (NEST). 2016 http://www.nestpensions.org.uk/

On average, net value added (NVA) contributed a rather modest 18 bps, or only 4%, to total returns. NVA is the contribution from active management. Fund characteristics associated with higher NVA are all closely tied to cost advantages and include the following:

- Fund size: Bigger is better. Large funds benefit from economies of scale.
- Internal management outperforms external management net of costs. Large funds use more internal management than small funds.
- Low cost active management has outperformed, but high cost active management has under performed passive management. Better performing funds are typically large and implement active management cost effectively (more internal/less external; less fund of funds in private markets).

Two possible scenarios for a new micro-pension plan investment operation are discussed below. A key assumption under both scenarios is that the investment operation must be economically viable in its own right. In other words, a third-party subsidy is not available to the investment operation. The two scenarios are:

1. A micro-pension plan is established as a standalone start-up enterprise, and
2. A micro-pension fund start-up is integrated into an existing investment operation such as a social security fund or civil service pension fund.

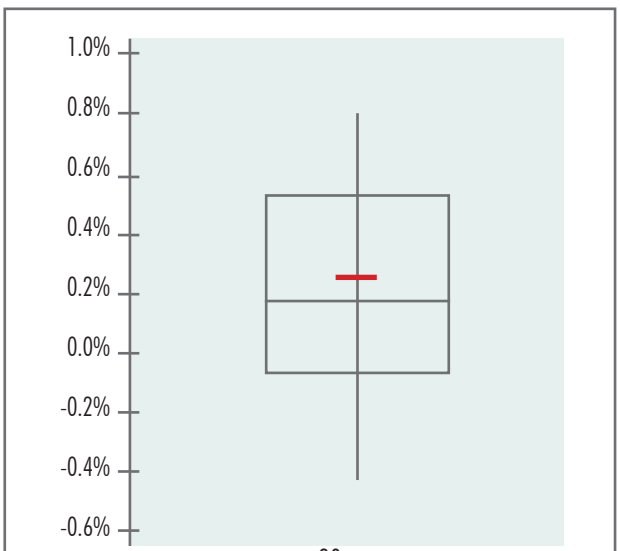
The absence of scale is a limiting factor for any investment operation start-up. This challenge is extreme for a stand-alone micro-pension start-up for informal sector workers. As the Kenya Mbao example above illustrates, individual contribution levels can be very low. The number of members required to generate significant AUM relatively quickly is in the millions with very low contribution levels. Very large population segments would have to be targeted, and in many countries these membership levels are not viable. Reaching the USD 10 billion threshold where pension funds typically start to manage assets with internal staff could take many years and may not be realistic.

High cost external active management does not generally produce the best outcomes, especially for funds with low AUM and weak bargaining positions. Therefore, it seems that implementing low cost out-sourced passive management is the best strategy for a standalone start-up micro-pension fund. The expected investment cost for such a fund is calculated here by applying median external passive costs from the 2015 CEM Global IBD to widely used public equity and fixed income asset classes and median costs for the investment oversight functions (includes senior fund staff, governance, custody, consulting, etc.). The resulting expected annual investment operation cost is about 9 bps.

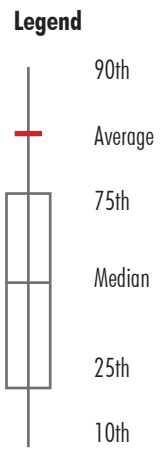
The NVA for a 100% passively managed fund will be zero less cost. Therefore, the NVA for this standalone fund with investment costs of 9 bps will be -9 bps. What does this mean in terms of outcomes for plan members? The first and most important perspective is that equity and fixed income market returns will be far better over the long-term than

cash hoarding or returns on retail saving products. The second perspective is that NVA of -9 bps places this micro-pension fund at the 23rd percentile level of funds in the CEM Global IBD with 20 years of continuous data. Figure 18.5 illustrates the range of NVA results for these funds. This is a reasonable expected outcome for plan members.

Figure 18.5
Net value added distribution (bps) for funds in the CEM Global database with 20 years of continuous data



90th%	0.79 bps
75th%	0.54 bps
Median	0.18 bps
25th%	-0.06 bps
10th%	-0.40 bps
Average	0.25 bps
Count	55



Integrating a start-up micro-pension fund into an existing investment platform, perhaps a social security fund or civil service pension fund, eliminates the economies of scale problem, at least partially. Micro-pension fund assets could be co-mingled in asset class pools already managed by the existing fund's investment operation. Active management opportunities could be implemented more cost-effectively. Ideally, low cost internal active management would be viable. A wide range of long-term NVA outcomes are possible in this scenario, as shown in Figure 18.5 by results for funds in the Global IBD

with 20 years of continuous data. The median NVA result in this group was +18 bps; the 75th percentile was +54 bps; and the 90th percentile was +79 bps. Of course, it is also possible to under perform a low cost passive implementation approach: the 10th percentile NVA result was -40 bps. Positive NVA from active management improves long-term outcomes for plan members. Top quartile funds in the CEM Global IBD have added significant value and materially improved outcomes. Most bottom quartile funds under perform low cost passive implementation approaches. Cost-effective implementation of active management is the key differentiating factor.

PENSION ADMINISTRATION AND **MEMBER SERVICE**

Pension administration activities are also vital to pension plan success, although they do not typically receive the same public scrutiny as investment operations. Pension administration operations encompass the plan activities that support the core mission of all pension plans – the eventual delivery of a pension to individual plan members. The key activities performed include:

- Collecting and allocating contributions from employers and/or members
- Data maintenance and reporting
- Processing transactions: examples include enrolments, withdrawals and transfers in and out of the plan, retirements, and deaths
- Member and employer communication and service delivery: examples include answering queries, online information and tools, issuing member statements, plan and financial education, retirement counselling, and reporting to stakeholders
- Marketing and sales
- Governance, strategic oversight, and financial control

ADMINISTRATION AND MEMBER SERVICES COSTS

In the CEM global universe, estimated total pension fund costs in 2015 varied widely from about 15 bps of assets under management for a European USD 80 billion fund to 200 bps for a USD 4 billion fund. Table 18.4 breaks down total fund costs as a percentage of total assets under management for various regions where CEM has data.

Table 18.4
Total Fund Costs as a % of Total Assets under Management

Cost Classification	DB		DC		
	Global average	Netherlands average	United States Average	Australian Superannuation Average	Latin America Average[4]
Investments[1]	55 bps	58 bps	23 bps	46 bps	5 bps
Administration and Members Services[2]	7 bps	7 bps	9 bps	29 bps	71 bps
Total Fund Costs	**62 bps**	**65 bps**	**32 bps**	**75 bps**	**76 bps3**

1. Investment costs include internal and external asset management costs, oversight, custodial and audit costs. Transaction costs are excluded.
2. Administration costs include member transactions, communication, collections/ data maintenance, governance and major projects. IT and support service (e.g. HR, Legal, Audit) as they pertain to pension administration. For DC systems, marketing costs are also included.
3. Total costs as represented here differ from the 1.16% average presented on Table 18.1 the latter included operating profit of pension providers.
4. CEM conducted a study of the 46 pension plan administrators operating Mexico, Chile, Peru Colombia, Uruguay, Costa Rica, Dominican Republic, El Salvador, and Panama. Data is as at December 31 2014. Administration costs are drawn from public financial statements as well as those reported by AIOS (including sales and marketing). Investment management costs include estimated internal asset management costs taking into consideration the mix of investments invested in foreign and domestic assets as well as implementation style of these investments (i.e active or passive) for each of the respective pension providers in the 9 Latin countries studied by CEM. Investment costs include estimated costs for 3rd party asset management such as mutual funds.

As illustrated, there is wide variation in the breakdown between total investment and administration costs for pension systems structured as DB versus those structured as DC. As discussed briefly in the previous section and further detailed in Appendix C of this chapter, the primary driver of cost differentials for these systems are related to the investments chosen and their respective implementation styles. Additionally, DC systems managed by competitive entities in Latin America and Australia incur sales and marketing costs that can be quite high whereas DB systems in North America and Europe generally have captive member bases.[8] It is generally agreed amongst leaders of the Latin pension industry that sales costs in particular do not add value to members in helping them choose a 'better' pension plan provider. In Latin America, it is estimated that sales costs are approximately 30% of total costs.

Table 18.5
Key factors driving cost differences and the related impact on costs in the different markets studied

Implementation Style	DB	DC		
	Global	U.S.	Australia	Latin America
High exposure to costly assets (e.g. private markets)	Yes	No	No	No
High exposure to external active investment management	Yes	Yes	Yes	No
Sales and marketing costs	No	No	Yes	Yes

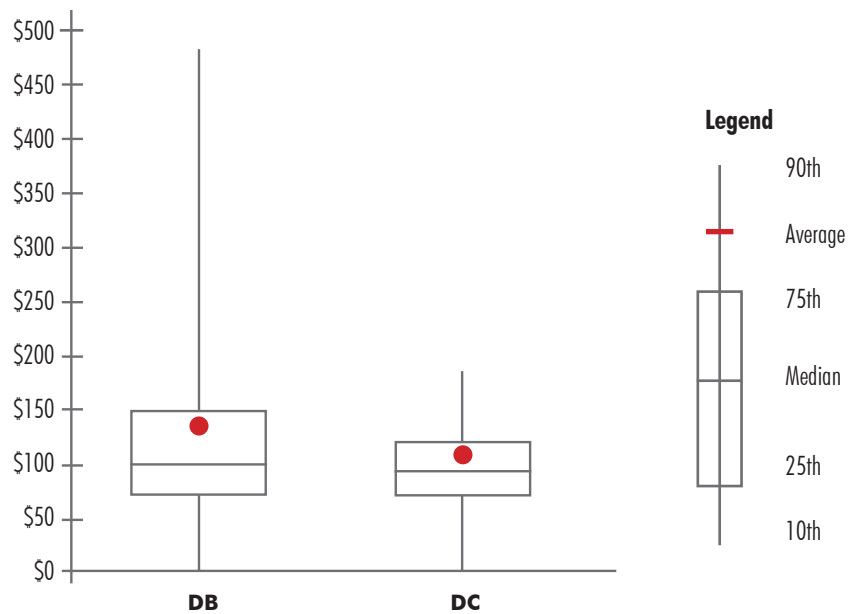
[8] Sales and Marketing costs in Latin America have been estimated based on publicly available financial statements of the Latin American pension providers studied by CEM.

Establishing and maintaining a cost-effective yet adequate pension administration system in developing micro-pension systems is critical. These systems will not be able to sustain high cost marketing programs and sales channels.

COSTS OF PENSION ADMINISTRATION PER MEMBER

Pension administration costs are driven by plan members, rather than assets managed. Therefore, CEM Benchmarking assesses costs for both internal and outsourced member services/benefit administration operations on a per-member basis. CEM has conducted annual cost effectiveness comparisons between participating pension plans in Canada, the U.S., Australia, and the Netherlands since 1998. As Figure 18.6 illustrates, pension administration costs per member in 2015 ranged widely, from USD 10 to over USD 450 in the CEM global database (includes 80 unique plans). Average administration costs for DB plans were USD 134 versus USD 101 for DC plans. Median costs were USD 98 and USD 87 for DB and DC funds respectively.

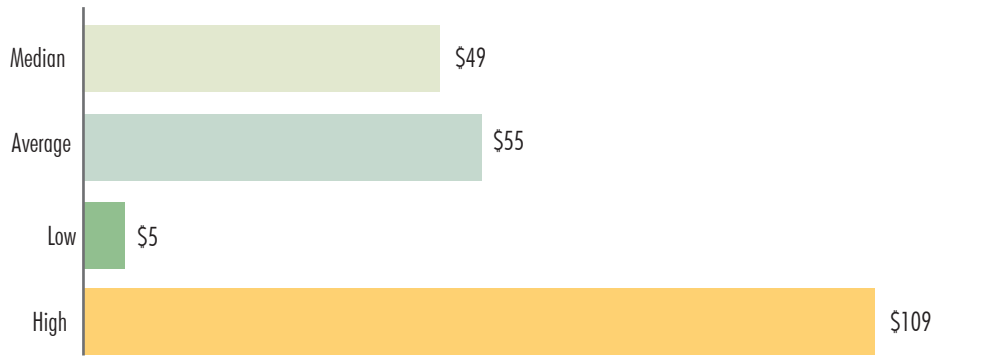
Figure 18.6
Global Pension Administration Cost Per Member



	DB	DC
Maximum	634	194
90th	262	146
75th	157	115
Median	98	87
25th	73	74
10th	41	70
Minimum	10	47
Average	134	101

CEM has estimated administration costs per member in the Latin pension markets it has studied as at December 2014.[9] These costs, as illustrated in Figure 18.7, are calculated based only on the number of members actively contributing to pension accounts (which on average, amount to approximately 45% of all registered members). Average Latin American pension administration costs of USD 55 and median costs of USD 49 per active member are notably lower than those exhibited by pension administrators in more developed markets.[10] This is partially due to the substantially higher number of members and related economies of scale advantages found in systems operating in Latin America. Other reasons for lower costs may be explained by the generally less expensive operating environments in which these pension systems operate in (i.e. lower salaries and infrastructure costs).

Figure 18.7
Latin America Private Pension Administration and Member Services costs Per Active Member



Costs for pension administration of DB plans in developed markets have been trending upwards since 2012. Costs have gone from USD 105 per member in 2012 to USD 117 per member in 2015, an increase of about 4% per annum. This increase is mostly due to investments in technology.

In Latin America, CEM anticipates that pension administration and member services costs for activities such as governance, marketing, financial education, and IT systems will also see some upwards pressure. Hopefully, efforts to reduce non-value add costs related to sales and account transfers between competitors will continue in Latin America. Additionally, continually improving efficiencies and minimizing costs related to people, processes, and technology are key considerations for established DC pension systems in Latin America as well as micro-pension markets everywhere. As previously illustrated in Table 18.1, micro-pension systems such as NPS Lite/APY in India and Kenya Mbao have low average contribution levels and account balances that will not support much in the way of costs.

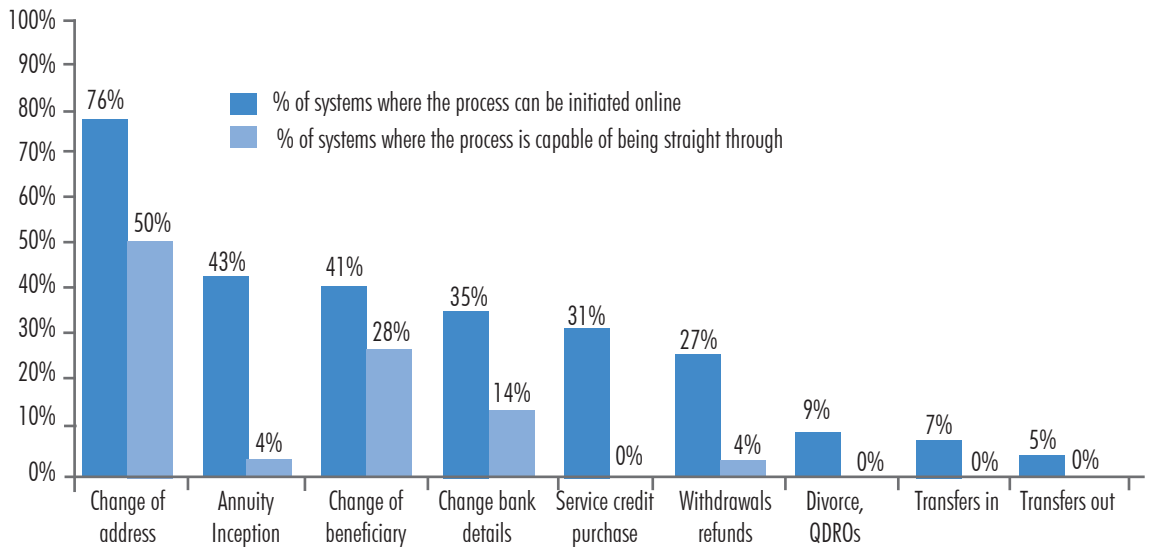
[9] Source: AIOS: http://www.aiosfp.org/estadisticas/boletin-estadistico-aios/?lang=en

[10] Costs per member have been calculated as a percentage of active members only. Active members are defined as only those who are contributing to their plans. In Latin America, approximately 45% of total members registered in the private pension system actively contribute to their plans.

KEY OPERATIONAL COST DRIVERS

CEM has developed a cost model that identifies key cost drivers for pension administration and helps to explain differences in costs between plans. The remainder of this section breaks down some of these key cost drivers with a focus on implications for developed markets and considerations for developing markets.

Figure 18.8
Straight through Processing (STP)



1. LEVERAGE TECHNOLOGY

Operating costs in developed market pension systems have been on the rise primarily due to large investments in modernizing their legacy pension administration systems. These systems have become dated and costly to maintain. They are unable to effectively support increasingly complex transaction processing and client service needs. Micro-pensions can benefit by avoiding these costs with the implementation of current, less expensive, more flexible and effective technology platforms. This includes use of online services accessed via mobile devices.

Straight through processing (STP) has many advantages for pension systems, including the potential to reduce costs, increase productivity and improve members' service experience.[11] However, there is a big difference between a process that is fully automated and one that is simply initiated online. CEM has found that many systems enable online initiation for numerous transactions, but very few have STP. For example, Figure 18.8 illustrates that just over 40% of systems allow members to start the process of retiring themselves online but only 4% of these systems have automated the full process. The

[11] CEM Research (2013), "The Paperless Pensions Office; How and why the World's leading pension administration teams are moving to a paperless environment"

main barriers to fully automating transactions include: security concerns, system issues, and legal concerns such as obtaining digital signatures. Complex transactions are less likely to be processed straight through and are more likely to require a physical signature. Additional considerations for the successful implementation of STP in pension systems include: 1) Data quality – fundamental to delivering effective STP; and 2) Online functionality – successful use of STP requires members to effectively process transactions online. Members will not use online services otherwise.

The growing importance of online capabilities in developed pension markets is supported by CEM data as illustrated in Table 18.6. Micro-pension administrators are in an excellent position to harness online technology to communicate with and provide services to both existing and potential members.

Table 18.6
Online Transactions

	% Offering Tool
Online Tool	**2015**
Benefit calculator in secure area linked to member's salary and service data	85%
Service credit purchase calculator	73%
Register for counselling sessions	37%
Register for presentations	64%
Live chat	6%
Change address	84%
Change beneficiary	47%
Change email address	81%
Reset password	53%
Change banking information for direct deposit	60%
Download or print duplicate tax receipts	77%
View annuity payment details	83%
Apply for retirement	46%
View status of online retirement application	50%
Apply for a refund or transfer out	31%
Download member statements	86%
Upload documents	27%
View pensionable earnings and / or service with out downloading	86%

There are some good initiatives underway that are effectively leveraging technology platforms. Examples include Mexico where the pension regulator (CONSAR) has worked closely with pension administrators to establish increased access to member services

via the use of digital platforms and biometrics utilizing voice, fingerprint, and digital signature[12] (see also Chapter 9 on Mexico for more details). Representatives from each plan administrator are equipped with the required technology to capture new member enrolment information in a process that takes only a few minutes.

Mexican pension plan members also have access to several transactions and services online (including via mobile devices). The level and quality of online services will continually improve with the support of CONSAR. Recent enhancements include the implementation of a clear operational framework and supporting regulations, and a sound online electronic payments platform.

In India and Africa, micro-pension plan administrators are looking to leverage customized, ready-to-deploy IT platforms and tools for administering portable individual micro-pension accounts. These systems also rely on the latest biometric technology (i.e. fingerprints) and, critically, a link to government-maintained data files through a citizens National ID system or 'NID' number. This enables a very efficient member enrolment process. Work conducted by pinBox Solutions in India has demonstrated that using this process for account opening has reduced processing time from 18 days to three minutes thereby substantially reducing costs from 20% of first-year contributions to 0.5%, a drop of close to 98%.[13] (See Chapter 1 on India, Chapter 2 on Kenya and Chapter 14 on Data and ID for more details).

Another key member activity that has been successfully automated in micro-pension markets is pension contributions. As mentioned earlier in this chapter, micro-pension administrators have successfully leveraged 'mobile money' technology. Africa has become a leader in the use of mobile money services amongst developing countries.[14] The success of mobile money is due to the relatively low cost of the technology involved in implementation and maintenance of these platforms as well as the ubiquitous nature of mobile phone ownership. It is estimated that more than 50% of the global adult population is 'unbanked'. Approximately 67% of adults in developing markets do not have bank accounts. However, it is estimated that over half of the world population now has a mobile phone and these phones are increasingly used for accessing the internet and processing financial payments.[15] In Africa, 82% of the total population had a mobile connection as of January 2016.[16] The Mbao Pension Plan in Kenya has leveraged this technology successfully as have some systems in India. Real-time accounting for contributions, a next-to-zero risk of theft or reconciliation errors, and modest cost are

[12] "CONSAR. 2016. "Informe Trimestral al H. Congreso de la Unión sobre la situación del SAR." http://www.gob.mx/cms/uploads/attachment/file/165026/Informe_ Congreso_3T2016_FINALv17hrs.pdf

[13] Bhardwaj, Gautam, "Digital Solutions for Pension Inclusion: Some examples from India" presented at the World Bank 7th Global Pension and Savings Conference, Washington, D.C. Available online http://pubdocs.worldbank.org/en/882341475163962881/sl-GautamBhardwaj-pinBox.pdf

[14] Rose MusonyeKwena and John A. Turner, (2013) "Extending pension and savings scheme coverage to the informal sector: Kenya's Mbao Pension Plan" International Social Security Review

[15] Kemp, Simon (2016), "Digital 2016, We Are Socials Compendium of Global Digital, Social, and Mobile Data, Trends, and Statistics" http://wearesocial.com/special-reports/digital-in-2016

[16] Kemp, Simon (2016), "Digital 2016, We Are Socials Compendium of Global Digital, Social, and Mobile Data, Trends, and Statistics" http://wearesocial.com/special-reports/digital-in-2016

large benefits of this technology. This same technology can be used for the eventual payout of a member's pension at retirement.

2. SCALE MATTERS

Similar to investment management operations, member services/administration costs per member also decline with size as fixed costs are spread over a larger base. Based on a sample of 63 pension plans, a 200,000 member system has a USD 57 per member cost advantage relative to a 100,000 member system. A 400,000 member system has a USD 29 per member cost advantage relative to a 200,000 member system. The benefits of economies of scale are not linear; they diminish as systems get larger. Examples of fixed costs are those required to run the facilities that house the pension administration services.

Micro-pension systems in many developing countries are well positioned to benefit from economies of scale given potentially large member bases.

3. MAXIMIZE OPERATIONAL EFFICIENCY

Operational efficiency and cost effectiveness are key objectives for any pension plan administrator. This dynamic is even more important in a pension scheme where plan contributions are mandatory. Plan members should expect plan providers to maximize efficiencies, minimize costs, and ultimately increase retirement payouts. In other words, strive to ensure human resources providing pension administration services are productive and adding value for members. Efficiencies should be maximized by continually implementing operational strategies that make the best use of people, processes, and technologies.

The number of transactions processed to support pension administration is a major driver of costs. Often a pension administrator does not have much control over transaction volumes. For example, as plans mature, more transactions are required to support putting a pension into pay, processing of pension terminations, and possibly survivor benefits at death. Plans with a growing and young member base (such as in developing markets like Latin America) will have to process more transactions for activities such as an account opening and collection of contributions.

Generally, the complexity of transaction processing due to legislative and compliance requirements has increased. This has an impact on costs of adapting processes, systems, and people (knowledge). Recent examples include the introduction of more complex marriage breakdown rules in Canada, a transitory commission structure in Peru, and stricter plan transfer rules in Mexico. Regulatory and benefit complexity of micro-pensions should be minimized. This will reduce workloads and costs.

Differences in the number of full-time-equivalent staff (FTE) used to serve members are a key reason for differences in costs between systems. Generally the more FTE used to serve members, the higher the costs. The past few years have seen a shift in the skill sets required in developed markets to accommodate an increased focus on member service and

the push for operational efficiencies. The following activities have required new thinking around talent management:

- Processing Member Transactions – the rise of the "knowledge worker". Increased automation and STP means less back-office staff required for processing simple, high-volume transactions. More knowledgeable staff are required to process transactions that are more complex and require more manual intervention, problem-solving, and direct communication with members.
- Client Service and Marketing – requires unique skills and some pension plans have been hiring from outside the pension industry (i.e. banks, mutual fund companies, insurance, and telecommunications).
- IT/IS – the increasing level of complexity in managing IT projects such as system modernizations (which are happening more frequently) as well as the increased focus on data science and data security require specific skill sets.
- Leadership and Governance – an increasing emphasis on more educated, professional, and experienced management teams and board members overseeing pension administration.

Lastly, data quality is a key element that impacts operational efficiency. Data supports all of a pension administrator's business processes and functional operations. Data quality impacts operational efficiency and productivity (e.g. by reducing the amount of rework). Poor data quality also has very real consequences in terms of member service levels (e.g. transaction turnaround, online transaction capabilities) as well as compliance and legal issues. Micro-pension systems need to ensure high-quality data management and governance procedures are in place.

4. OUTSOURCE WHERE AND WHEN IT MAKES SENSE

Outsourcing of all or parts of pension administration functions is common in countries such as Australia, Europe, and Latin America. Of the nine private pension systems in Latin America studied by CEM, all use some form of outsourcing for parts of pension administration. In Europe, administration and service delivery are often entirely outsourced to a commercial supplier.

Outsourcing is also prevalent in Canada and the US for employer sponsored DC plans. These plans tend to outsource all or part of the administration and member services activities (as well as asset management).

Pension administrators in Mexico have partnered with several large retail channels such as 7-Eleven, and Circle-K, to provide members with approximately 5,000 additional channels across the country. Members can make convenient voluntary contributions to their pension plan via these outlets. Retail outlets throughout Africa and India also play a large role in facilitating the convenient processing of small contributions cost effectively. These retail outlets act as agents of the local mobile companies and accept cash that can then be transferred using mobile money technology.

Outsourcing has its challenges of course. For example, there is evidence that plan administrators in certain systems maintain duplicate record keeping functions. Additionally, managing of third-party relationships and monitoring of out sourced service providers entails a cost.

Building the administration architecture for a micro-pension solution from scratch could be extremely costly and difficult to justify in terms of the fees members might need to pay to cover the build cost (absent any subsidy). Outsourcing or partnering with experienced suppliers or other pension plans could provide a relatively low-risk and cost-effective means to get started, at least until the micro-pension system has the assets to justify building its own administration platform.

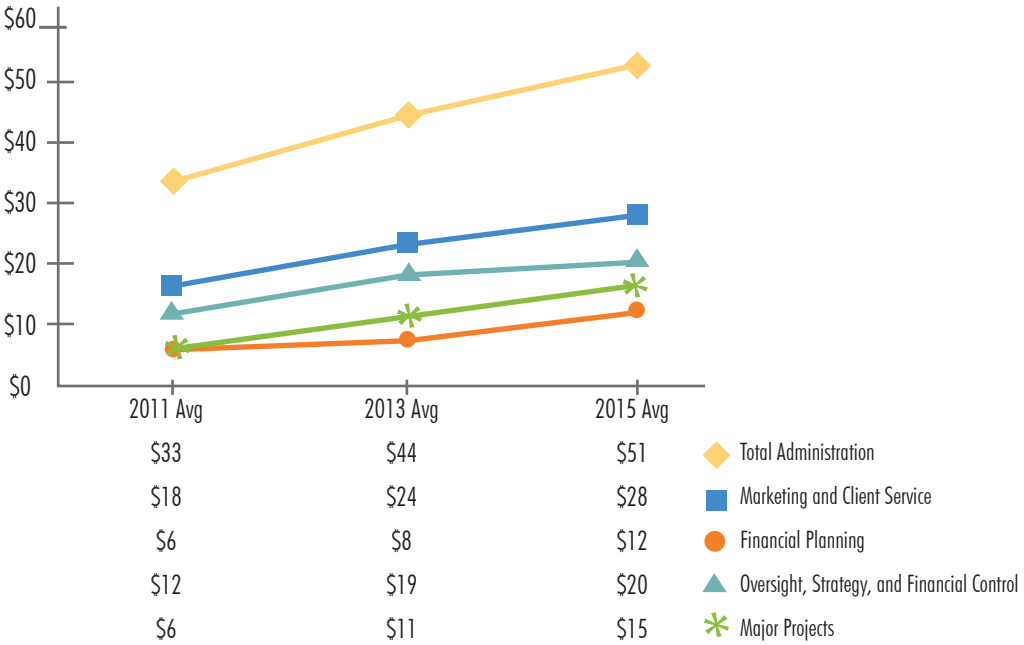
5. MEMBER SERVICE IS CRITICAL TO ADDING VALUE

Evaluating the reasonableness of pension administration costs and assessing the value proposition delivered requires careful consideration of a plan's operating context and environment. The member service goals and capabilities of pension plans can be quite different and this will impact costs. For example, one pension plan may choose to provide more individualized services ('high touch') versus another that may primarily rely on automated services, perhaps delivered on a 'self-serve' basis through a web site. The number of members on the administration platform is also an important cost factor. In addition, member mix and demographics will impact activity and service levels. For example, active (contributing) and retired(withdrawing) members are more costly to service than members who are inactive.

More focus on a client-centric approach in developed market defined benefit plans has resulted in an increased need for member communication. Plans have invested in people, training, and material to support client communications related to financial literacy, more complex administration requirements (e.g. marriage breakdown rule changes, disability, service purchases), and changing member demographics (e.g. increased number of retirees, higher frequency of career changes – more transfers, terminations).

Figure 18.9 illustrates how DC systems in Australia have increased their investment in client service, marketing, and financial planning services since 2011. Similar trends have been seen in some Latin American countries, driven by the need to communicate more complex products and investment options as well as to respond to general member distrust and misunderstanding of the value of their pension plans.

Figure 18.9
Trends in Cost per Member ($AUD)



Service levels offered to plan members are a critical element of a pension plan's value proposition. The mission of pension fund administration extends beyond merely maintaining records, processing transactions, and managing related costs.

CEM defines service from a member's perspective. Figure 18.10 illustrates the CEM pension member service model. Higher service means more choice of delivery channels, more availability of services, faster turnaround times, better content in communication material, and higher quality. CEM utilizes numerous service metrics across services provided for members, and the delivery channels available, to rank pension plan administrators. A higher service score is not necessarily better as better service may not always be cost effective or optimal. For example, it is clearly higher service for members to have a contact centre open 24 hours a day, seven days a week but few administrators would be able to justify the cost. Comparing service scores is most useful for identifying service gaps as well as for generating ideas for improving and optimizing service levels.

Figure 18.10
CEM Pension Service Model

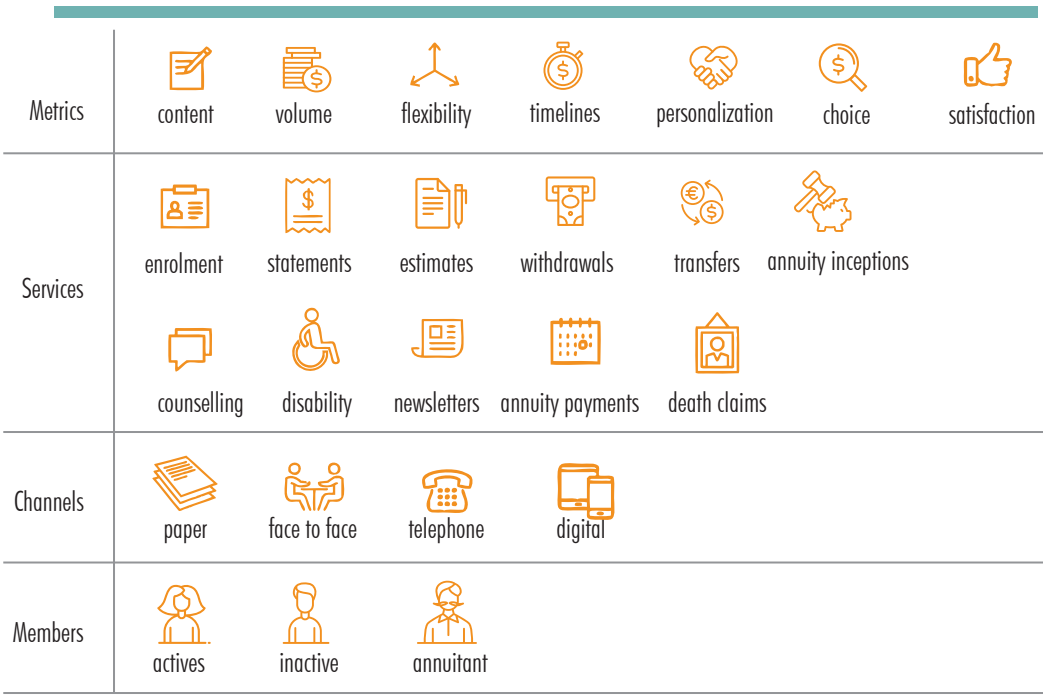


Table 18.7 provides a more detailed breakdown of selected key service metrics delivered by pension administrators between 2013 and 2015. The data shows that between 2013 and 2015, pension administrators have generally improved member service by focusing on enhancing the member experience through their call centres and online platforms. Administrators are also putting pensions into pay more efficiently and enhancing the quality of information on member statements.

One channel for member communication that has grown rapidly amongst pension plan providers recently is social media platforms. While initially these were set up as an additional channel from which to 'push' messaging to clients, these platforms are now increasingly used for dynamic two-way conversations with clients. Some pension providers are allowing for confidential information to be shared via 'personal messaging' features (i.e. on Facebook). A study conducted by CEM in 2015 of 72 pension providers supports the adoption of these platforms.[17] Although social media platforms themselves will evolve, usage rates will continue to increase. This will force pension plan providers to fully embrace their use as a key communication channel. Micro-pension administrators have an opportunity to leverage the rapidly expanding adoption of social media by individuals in developing countries. For example, in Africa only 11% of the population was active on social media as at January 2016. However, year-over-year growth rates of social media adoption are 25% which is aligned with the fact that the majority of Africans have a

[17] CEM Research (2016), "Social Media and CEM Pension Plan Administrators: What are systems up to these days?"

mobile phone, which is the primary medium for access to social media. A similar pattern is seen in India albeit at slightly lower rates of penetration and growth of 10% and 15% respectively.[18]

Table 18.7
Examples of Key Services Metrics

Select Key Service Metrics	2013	2014	2015
Members Contacts			
» % of calls resulting in undesired outcomes (busy signals, message, hang-ups)	13%	10%	11%
» Average total wait time including time negotiating auto attendants, etc.	153 secs	129 secs	137 secs
Website			
» Can members access their own data in a secure environment?	95% Yes	91% Yes	94% Yes
» Do you have an online calculator linked to member data?	84% Yes	81% Yes	85% Yes
» #of other web site tools offered such as changing address information, registering for counselling sessions and/ or workshops, viewing or printing tax receipts, etc.	10	10	11
1-on-1 Counselling and Member Presentation			
» % of your active membership that attended a 1-on-1 counselling session	5.4%	4.7%	4.7%
» % of your active membership that attended a presentation	4.9%	4.7%	4.9%
Pension Inceptions			
» What % of annuity pension inceptions are paid without an interruption of cash flow greater than 1 month between the final pay check and the first pension check?	86.6%	87.5%	90.2%
Member Statements			
» How current is an active member's data in the statements that the member receives?	3.1mos	2.8 mos	2.9 mos
» Do statements provide an estimate of the future pension entitlement?	85% Yes	87% Yes	88% Yes

COST VERSUS SERVICE

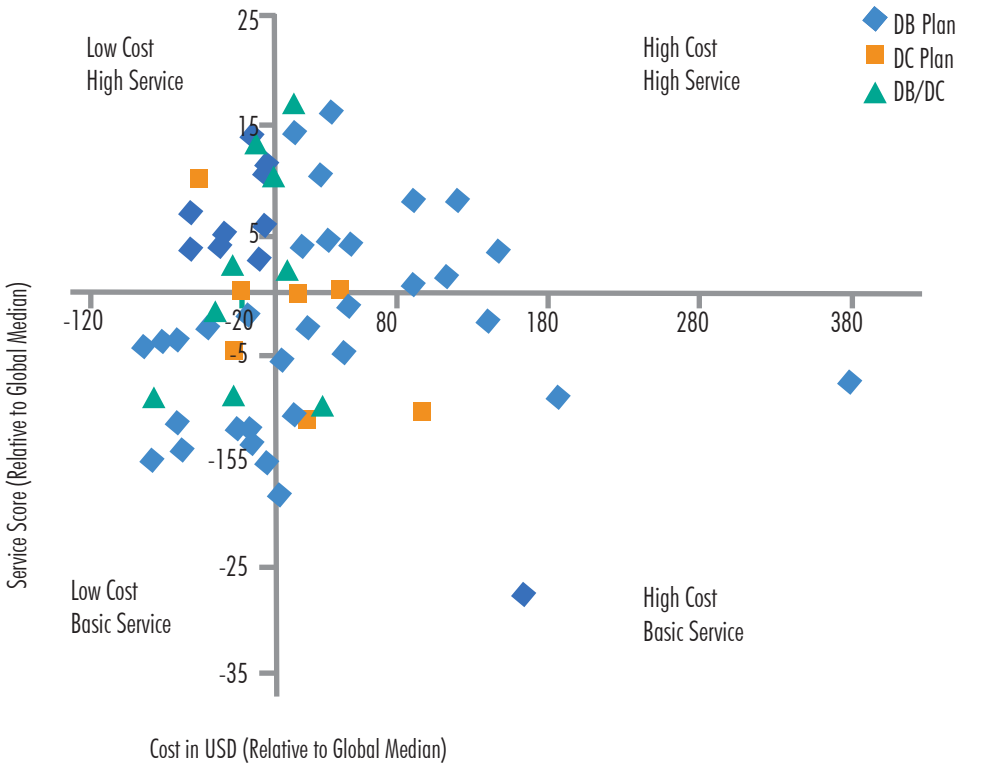
Higher service levels do not necessarily mean higher administration costs because:

- Costs are driven much more by the volume of service transactions (for example, the number of telephone calls, counselling sessions, etc.) than they are by their timeliness, availability, or quality.
- Service is partly a function of the historic investment in data quality and information technology. These historic costs are not always reflected in current pension administration costs.

[18] Kemp, Simon (2016), "Digital 2016, We Are Social's Compendium of Global Digital, Social, and Mobile Data, Trends, and Statistics" http://wearesocial.com/special-reports/digital-in-2016

The ideal value proposition for a pension administrator is to have high relative service and low relative costs. The administrators in the top left quadrant of Figure 18.11 have achieved that result. As the data illustrates, results support the fact that high service does not necessarily mean high costs.

Figure 18.11
Pension Administration Cost versus Service Score by Fund in 2015



CONCLUSION

In conclusion, the need for pension plans to manage costs and optimize performance is critical to maximizing 'value for money' for pension members. Plan administrators should aim to: 1) achieve economies of scale; 2) understand the cost effectiveness and value generating capability of their investment management operations; 3) leverage technology and resources to maximize operational efficiencies; and 4) provide the right balance of service and information that is valued by members at reasonable cost.

ACKNOWLEDGEMENTS

Thank you to pinBox Solutions for the opportunity to contribute to this important and exciting initiative. The guidance and support of Gautam Bhardwaj and Parul Khanna from pinBox, as well as Will Price from the World Bank, was very helpful and is much appreciated. Thank you also to our CEM colleagues – Edsart Heuberger, Kam Mangat, Maria Parra, Jason Luo and John Simmonds – for their hard work and valuable contributions to this chapter.

APPENDICES

APPENDIX A

CEM Global Investment Benchmarking Database (IBD)

CEM has been providing investment benchmarking services since 1991. Most participants are DB funds, but there are also sovereign wealth funds and DC investment platforms in the IBD. The 2015 database comprises 315 funds representing about USD 8 trillion. Participating funds range in size from USD 50 million to over USD 800 billion, with an average size of USD 27 billion. The breakdown by region is as follows:

- 167 U.S. funds with aggregate assets of USD 3.3 trillion.
- 75 Canadian funds with aggregate assets of USD 1.2 trillion.
- 57 European funds with aggregate assets of USD 2.8 trillion.
- 16 funds from other regions including Asia-Pacific, Africa, the Caribbean, Latin America, and the Middle-east, with aggregate assets of USD 0.9 trillion.

The Global IBD includes the following metrics. All data elements are defined and standardized.

- Total fund and asset class holdings by implementation style: Implementation style is defined in terms of who makes investment decisions and whether or not there is an attempt to add value. Active management is any attempt to add value relative to a market index (such as the S&P 500 for U.S. stocks). Passive management is replication of a market index. External means that security level buy-sell decisions are made by investment managers external to the pension fund. Internal means that pension fund staff make the security level buy-sell decisions. There are four major implementation styles: internal/passive; internal/active; external/passive; and external/active.
- Policy/reference portfolio weights and total fund policy return: Policy or reference portfolio return is what funds would have realized by investing passively in their strategic asset mix. It represents asset mix index returns and isolates the contribution of the asset mix decision or 'market' returns to total returns.

- Fund and asset class returns by implementation style.
- Asset class benchmarks and returns.
- Detailed costs for both externally and internally managed assets as well as investment oversight and administration activities.

APPENDIX B

Summary of Investment Performance Research Insights from the CEM Global IBD

KEY TOTAL FUND RESULTS

1. Asset mix is by far the most important driver of total returns. Policy, or 'market' returns represent about 96% of long-term net return in the Global IBD.
2. Active management added positive but modest value added after investment costs. NVA is the difference between total fund return and policy return. It captures the after cost contribution of active management. Annual NVA has averaged 0.18% over the 25-year history of the Global IBD.
3. Costs need to be managed. Costs reduced value added from active management by 70%: from 0.60% before costs to 0.18% after costs.

ASSET CLASS PERFORMANCE

1. Equity asset classes, both publicly listed and private market, have generated higher long term net returns than fixed income asset classes. Equity asset classes have also experienced higher volatility.
2. Private markets are not a panacea. Diversification benefits are minimal after adjusting for reporting lags and smoothing. High cost implementation approaches, like fund of fund structures, under perform public market alternatives.
3. Pension funds should carefully consider their capabilities and implementation choices before investing in private market asset classes and hedge funds.

ACTIVE MANAGEMENT AND VALUE ADDED

1. Active management has been rewarded. Funds in the Global DBI have generated positive, but modest, average long-term NVA from active management.
2. Size matters: large funds have generated higher NVA than small funds.
3. Internal management outperforms external management after costs.
4. Costs matter.
5. Large funds have lower costs due to economies of scale.
6. Paying more does not get you more. CEM's cost benchmarking analysis reveals that paying more than others for what you do is not rewarded. It makes sense to manage costs.

7. Low cost internal active management outperforms high cost external active management for both public market and private market asset classes. High cost fund of fund structures perform poorly.

Research studies that are the basis for these investment performance insights are available on the CEM website: www.cembenchmarking.com

APPENDIX C

Investment Cost Insights from the CEM Global IBD

MANAGING INVESTMENT COSTS

Value creation in pension investment programs is closely tied to cost-effective implementation. Unfortunately, capturing total investment costs is challenging because of diverse reporting standards, incomplete reporting (especially in private market asset classes) and the industry practice of netting some costs from fund assets and not reporting all netted amounts as costs. For several years, Dutch pension funds have been required to report all costs in their annual financial statements using standard cost definitions. Therefore, we will use cost data from the 33 Dutch DB funds in the 2015 CEM Global IBD to illustrate total investment cost and its main components.

Table 18.8
Dutch DB 2015 Investments Costs[1]

Select Key Service Metrics	Average cost (bps)
Public market assets	20.6
Private markets and hedge funds[2]	20.3
Transaction costs[3]	11.3
Oversight, custody and other costs	5.5
Total	**57.7**

1. Average size fund € 28.5B; Median size: € 4.6B. Average asset mix: 26% Stocks; 63% Fixed Income; 7% Real Assets; 2% Hedge Funds; 2% Private Equity.
2. Base fees and performance fees are included.
3. Includes transaction costs for all asset classes

The average Dutch total investment cost was 57.7 bps in 2015. However, the range of total costs reported by Dutch DB funds in the CEM database was very wide: from a minimum of 15 bps to a maximum of 125 bps. What drives such large differences in total fund costs? One important factor is fund size, which cannot be controlled directly by fund management. Large funds benefit from scale economies. On average, a fund with USD 10 billion of AUM has about 15 bps lower costs than a fund with USD 1 billion of AUM. However, there are three important cost drivers that can be managed: asset mix, implementation style choices, and paying more or less than others for similar services.

ASSET MIX COST DIFFERENCES

Asset mix differences are a big driver of total cost differences between funds. Private market investments are much more expensive than public markets. Table 18.9 shows the median external active costs in 2015 for two major public market and two major private market asset classes. The median Private Real Estate cost was about double that of U.S. Stock and the median Private Equity cost was about eight times higher than U.S. Stock.

Table 18.9
2015 Asset Class Costs[1] for Global DB Funds

Cost category	Median cost (bps)
U.S. Fixed Income, external active	18
U.S. Stock, external active	46
Private Real Estate, external active	79
Private Equity, limited partnership and co-investment	324

1. Cost basis is NAV. Base fees, performance fees, and internal oversight and monitoring costs are included. Transaction costs are excluded. Co-Investment is included with LPs because it can only be done alongside LPs.

IMPLEMENTATION STYLE COST DIFFERENCES

Implementation style choices are also a big driver of cost differences between funds. Table 18.10 shows median 2015 U.S. Stock costs for the four major implementation styles for Global DB funds. Cost differences between internal active, internal passive, and external passive styles are relatively small. External active management is much more expensive than the other three implementation styles. This is the typical pattern for public market asset classes.

Table 18.10
U.S. Stock Costs[1] by Implementation Style for Global DB Funds

U.S. stock implementation style	Median cost (bps)
U.S. stock, internal passive	1
U.S. stock, internal active	7
U.S. stock, external passive	3
U.S. stock, external active	46

1. Transaction costs are excluded.

Passive investing is not an option in private market asset classes. There are three active implementation style choices: internal, limited partnerships (LPs) and co-investment, and fund of funds. Median private equity costs for these three implementation styles for Global DB funds are shown in Table 18.11. Fund of funds added additional costs of 136

bps relative to LPs and co-investment. Median internal private equity cost was 294 bps lower than LPs and co-investment and 430 bps lower than Fund of Funds.

Table 18.11
Private Equity Costs[1] by Implementation Style for Global DB Funds

Private Equity implementation style	Median cost (bps)
Internal	30
LPs and co-investment	324
Fund of funds	460

1. Cost basis is NAV. Base fees, performance fees, and internal oversight and monitoring costs are included. Transaction costs are excluded. Co-Investment is included with Direct LPs because it can be done alongside LPs.

Implementation style choices are clearly influenced by fund size. Below USD 10 billion AUM the amount of internal management is minimal for Global DB funds. External management is prominent with most assets in public markets managed actively, and over 50% of assets in private asset classes and hedge funds managed via high cost Fund of Funds. The use of internal management climbs steadily from the USD 10 billion AUM threshold. Internal management for funds in the USD 100 billion range reaches the following average proportions by asset class: fixed income 60%; public equity 40%; real assets 30%; and, private equity 10 percent. Some large funds manage considerably higher proportions of their public market assets internally. Large Canadian public sector funds manage a high proportion of both public and private market assets internally.

PAYING MORE OR LESS THAN OTHERS

Most people expect a rational relationship when purchasing goods and services: the more you pay, the more you get. Unfortunately, the investment management business is not rational. Paying more than others does not get you more. This relationship is illustrated for Global DB funds in the cost effectiveness chart in Figure 18.12 Pension funds in the top left quadrant are low cost after adjusting for their size and asset mix and have achieved positive net value added from active management. Funds in the bottom right are the mirror opposite. They are high cost with negative net value added. If paying more got you more, the data should align from the bottom left to the top right. Instead, the distribution is random. The pattern is the same for every group of funds and every time period tested by CEM. This underscores the importance of managing investment costs.

Figure 18.12

Investment Cost Effectiveness Chart: Net Value Added vs Excess Cost for Global DB Funds in 2015