



SESSION 5. ANNUITIES

“CHALLENGES AND DEVELOPMENT OF THE MEXICAN ANNUITIES MARKET”

Introduction: Mexican Annuities Market

Background



- The current Mexican pension system for private sector employees started operations on July 1, 1997, according to the Social Security Law (LSS).
 - It is based on the capitalization of pension savings in personal accounts.
- The new Law of the Institute for Social Security and Services for State Workers (LISSSTE), issued on March 31, 2007, established the participation of the insurance sector in the payment of the pensions of Mexican state workers.

Background



- For the payout phase of the pension system, the LSS and LISSSTE allow pensioners to choose one out of two options*:

1

Annuities

- The worker must buy an annuity from a specialized insurance carrier.
- The pensioner hands over his savings to the insurer, who will bear the investment and longevity risks.

2

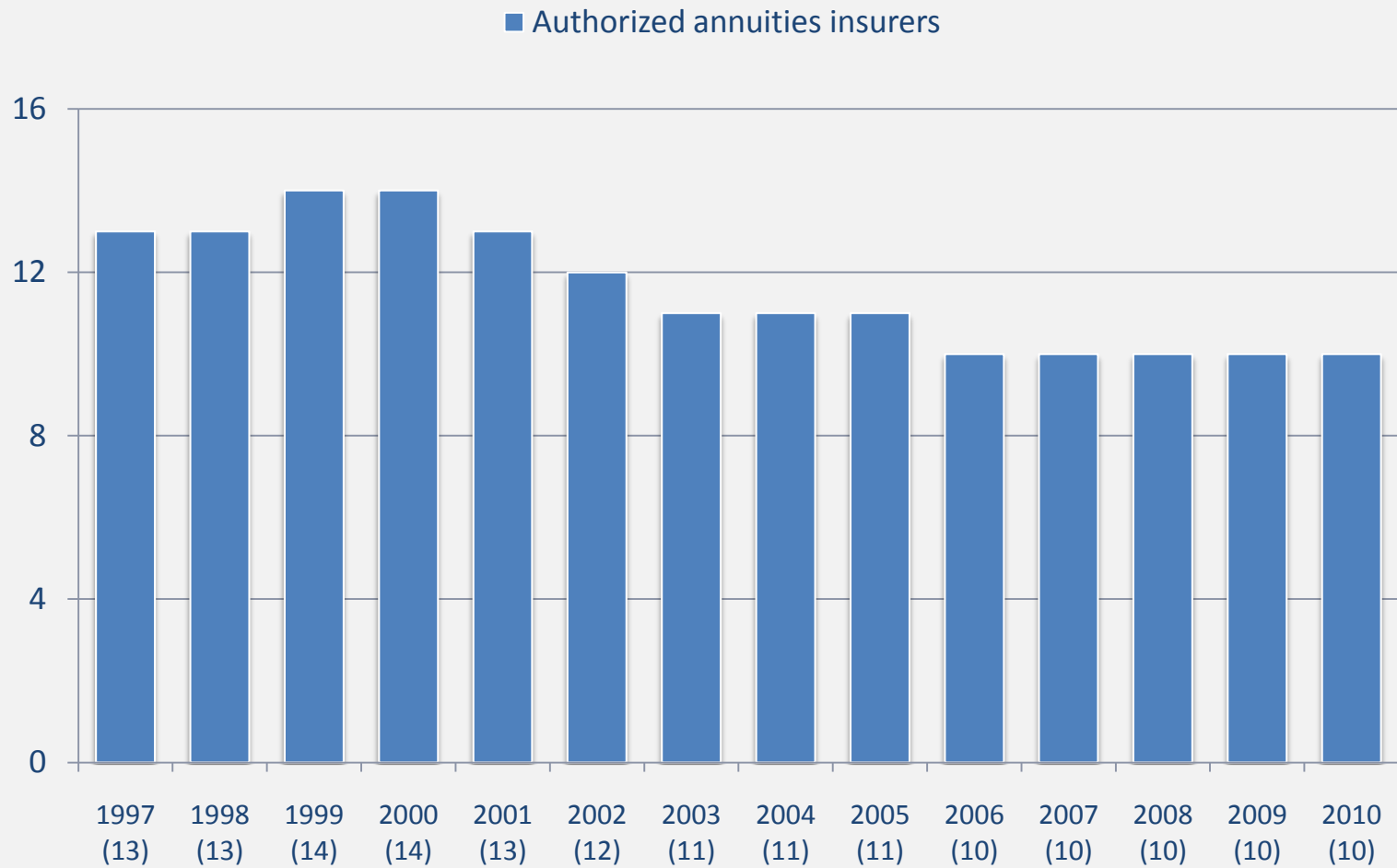
Programmed withdrawals

- The worker chooses a programmed withdrawals offered by a pension fund.
- The savings belong to the pensioner and therefore he bears the longevity risk.

* If the accumulated balance at retirement is less than the amount needed to obtain an annuity (at least the Minimum Pension Guarantee (MPG)), the worker has to opt for a programmed withdrawal. When resources are used up the Government is responsible for paying the MPG to the worker.

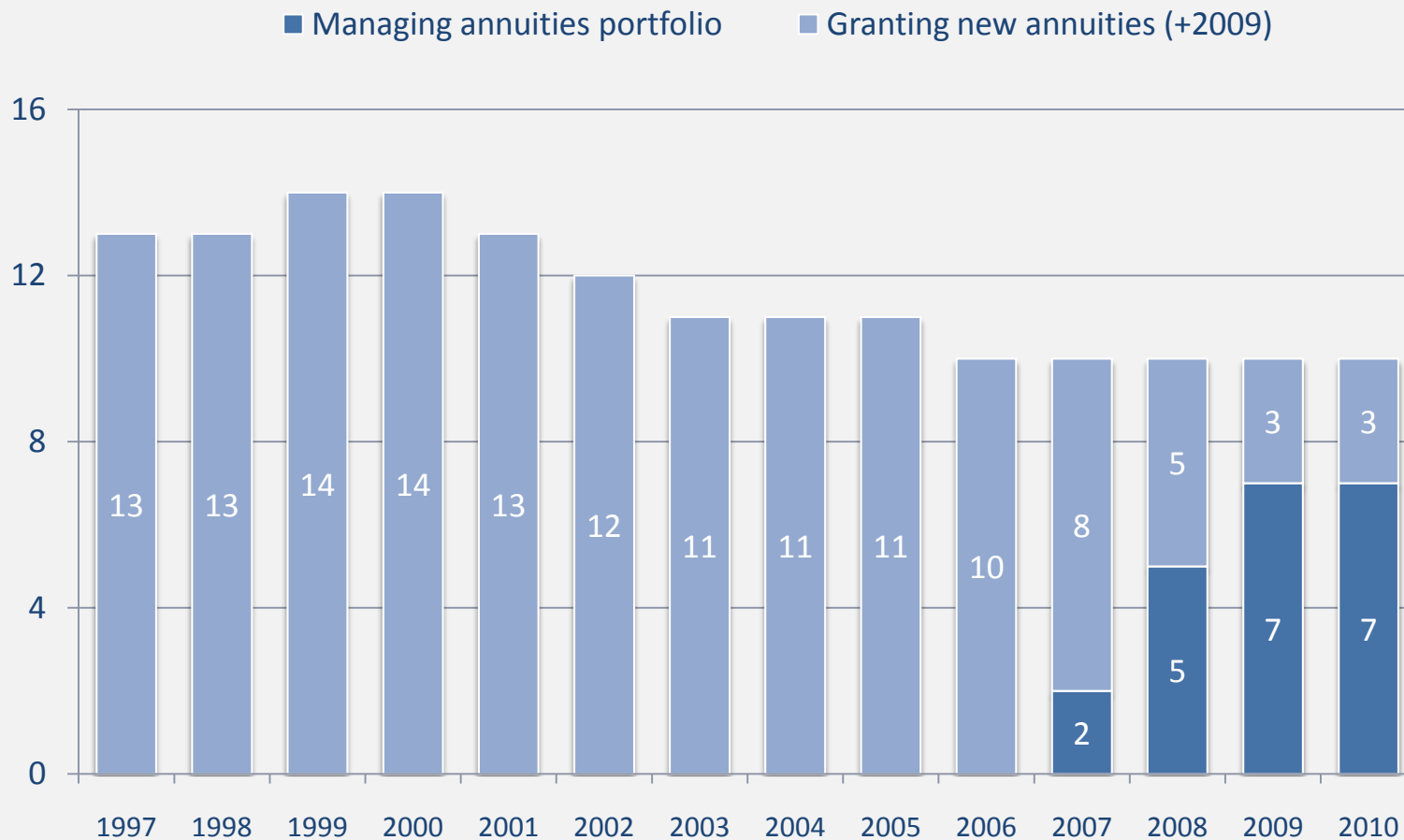
Annuities market structure

authorized annuities insurers



Annuities market structure

insurers by operative status

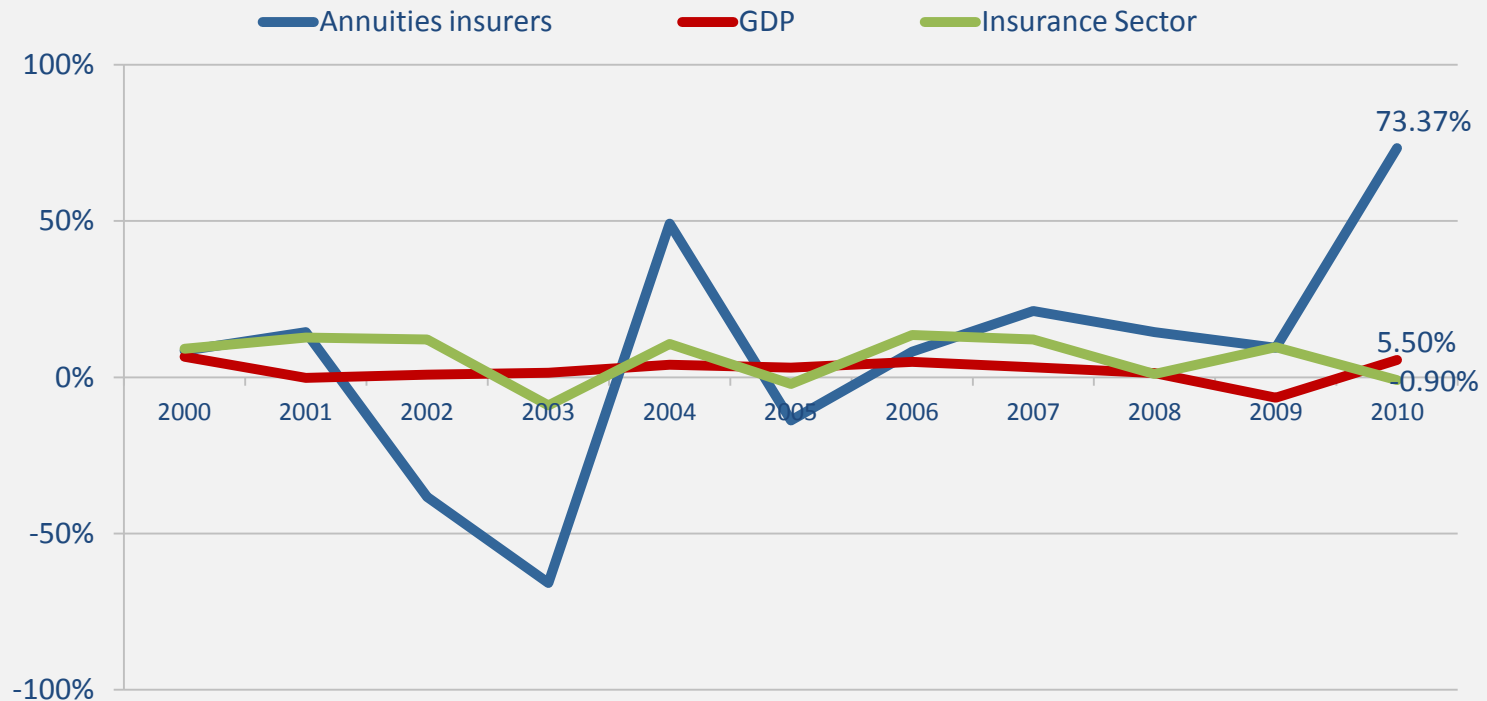


Growth dynamics

written premiums real growth vs. GDP



- Throughout 2007-09, the design and the prudential regulation of the annuities market were enhanced. As a result, it became more dynamic. Premiums showed a strong recovery in 2010 (+73.4%).

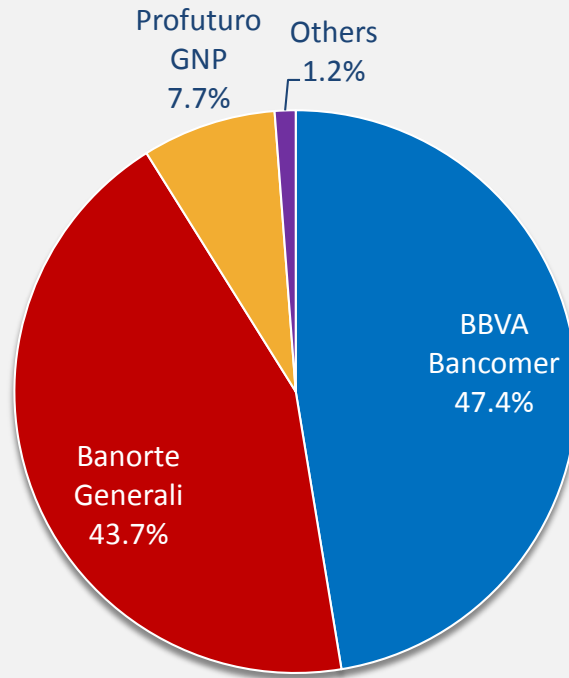


Growth dynamics

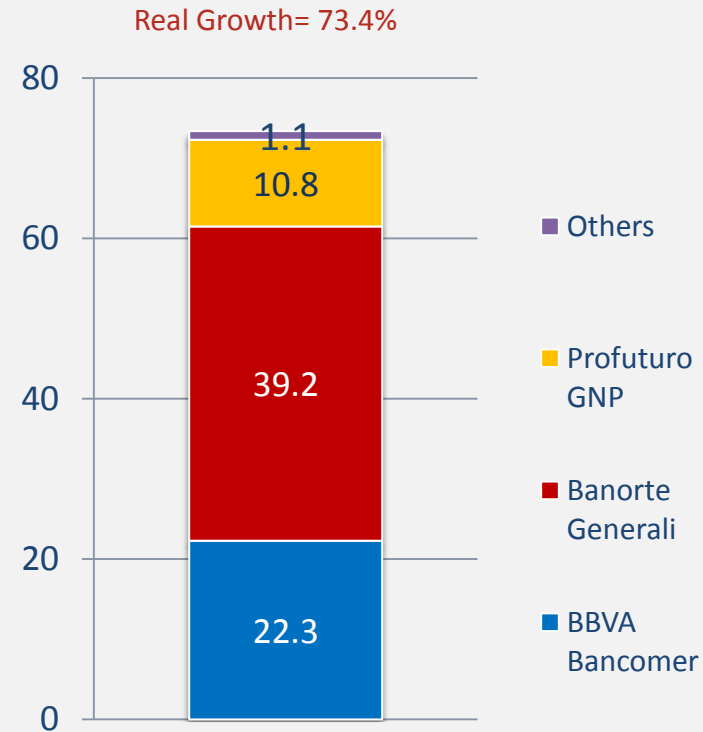
portfolio & share in real growth



Line of business portfolio



Growth Contribution (pp.)

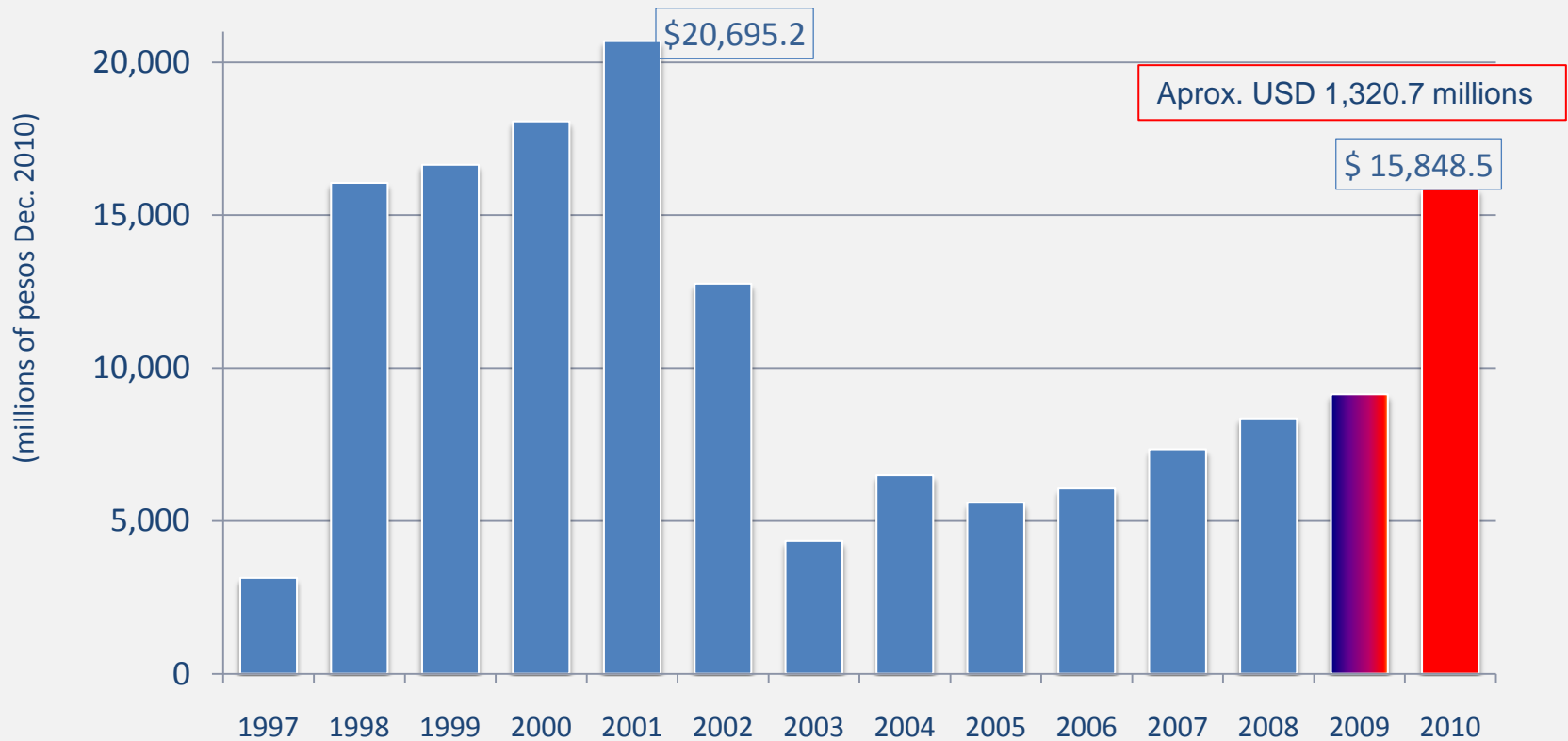


Size of the pensions market

real direct premium

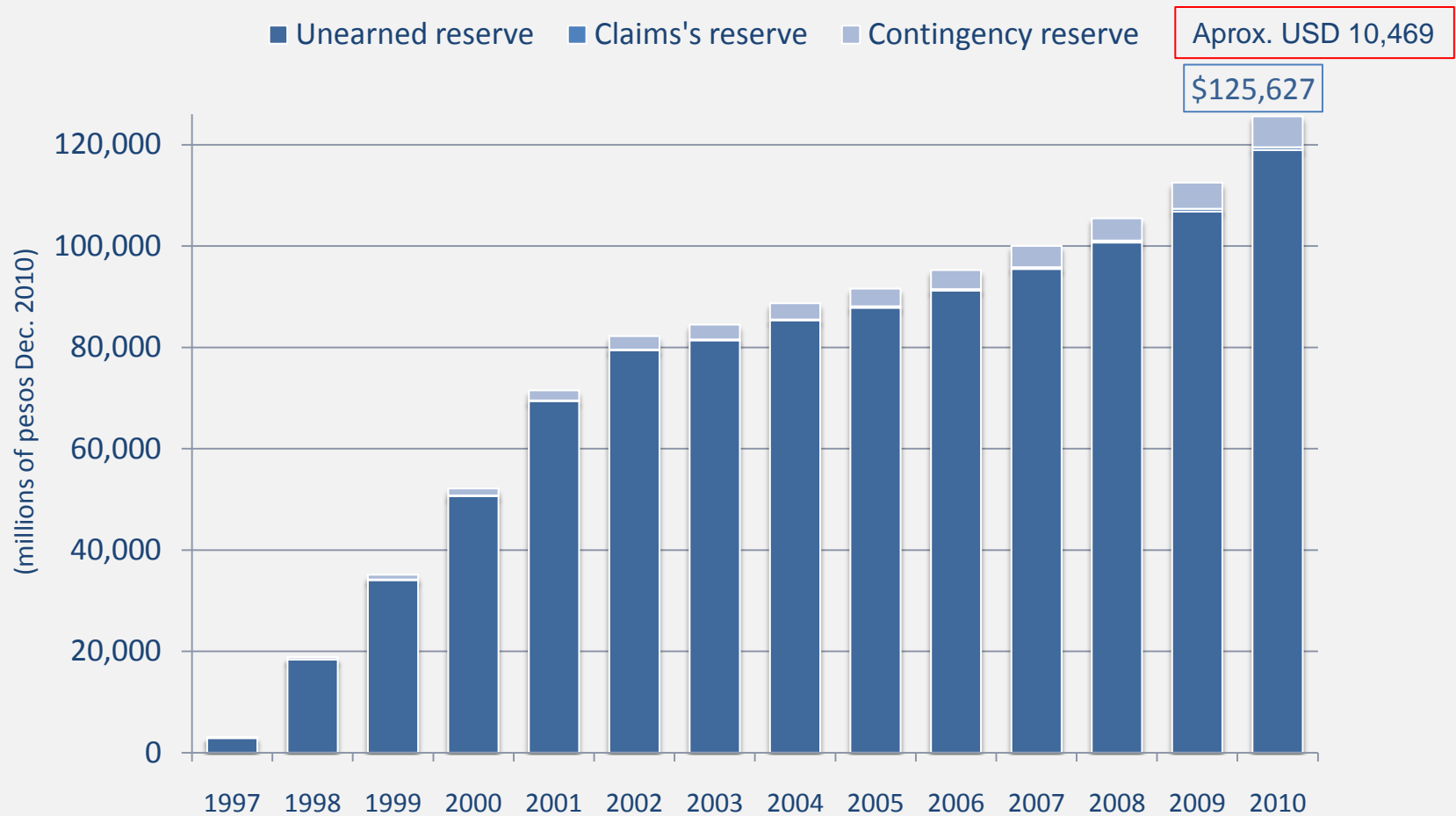


- A more dynamic annuities market will strengthen the *pay-out phase* of the Mexican retirement savings system.



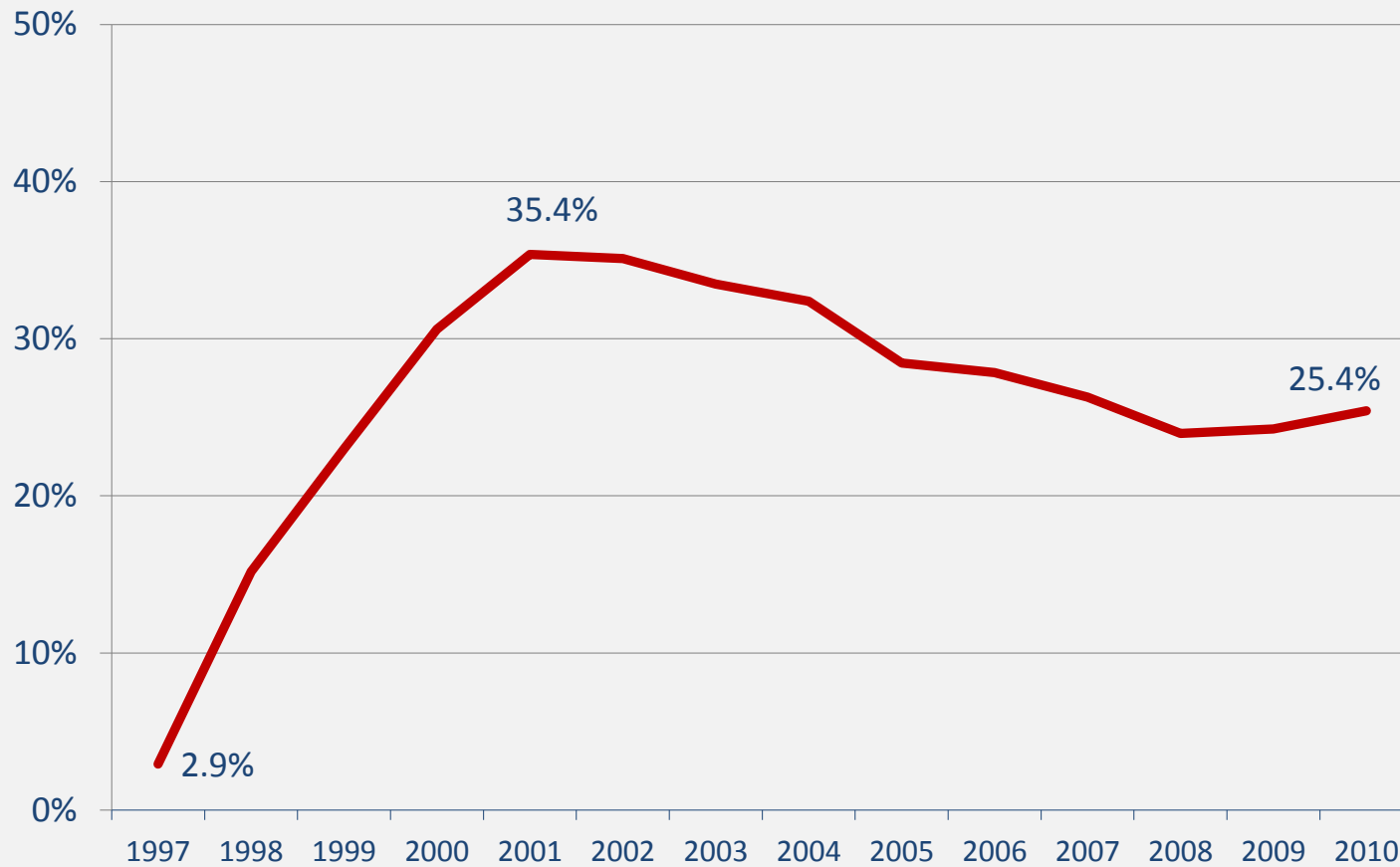
Annuities technical provisions

portfolio & dynamics



Annuities technical provisions

portfolio & dynamics



New operative scheme for annuities market

Annuities market

strengthening of prudential regulation



- In 2009 prudential regulation applicable to annuities was enhanced by:
 1. Implementing an electronic auction, information and pricing system (SOAR- Offers and Resolutions Management System):
 - To improve the critical interface between the *accumulation phase* and the *payout phase* of the pension system, increasing the efficiency and enhancing the transparency in the commercialization process.
 - With the SAOR, workers receive all the information required to select, appropriately, between the old and the new security system's benefits.
 - As the SAOR provides comparable information on the different offers of annuities, workers can select the insurer, AFORE or Social Security Institute that suits their financial needs, and get a pension.

Annuities market

strengthening of prudential regulation



- In 2009 prudential regulation applicable to annuities was enhanced by:
 2. Updating mortality tables that insurers are required to use for reserving and capitalization purposes.
 - Introducing dynamic mortality tables, to consider future improvements in life expectancies (longevity risk).
 3. Liberalizing mortality tables and discount rates to be used by insurers for pricing purposes.
 - Introducing a unique additional benefit that makes the competition more transparent.
 4. Allowing the use of derivatives, exclusively for hedge purposes, in order to enhance asset-liability matching.

New operative scheme

internet system



The SAOR operates from an Inter-institutional platform:

- ❑ IMSS
- ❑ ISSSTE
- ❑ SHCP
- ❑ CNSF
- ❑ CONSAR

SEGUROS DE PENSIONES DERIVADOS DE LAS LEYES DE SEGURIDAD SOCIAL

Iniciar Sesión



INICIO DIRECTORIO PREGUNTAS FRECUENTES MAPA DE SITIO CONTACTO

www.segurodepensiones.gob.mx

- ⌘ NORMATIVA
- ⌘ INFORMACIÓN GENERAL DEL SAOR
- ⌘ INFORMACIÓN PARA INSTITUTOS DE SEGURIDAD SOCIAL
- ⌘ INFORMACIÓN PARA ASEGURADORAS
- ⌘ FOLLETOS
- ⌘ ACCESO AL SAOR

SISTEMA ADMINISTRADOR DE OFERTAS Y RESOLUCIONES (SAOR)

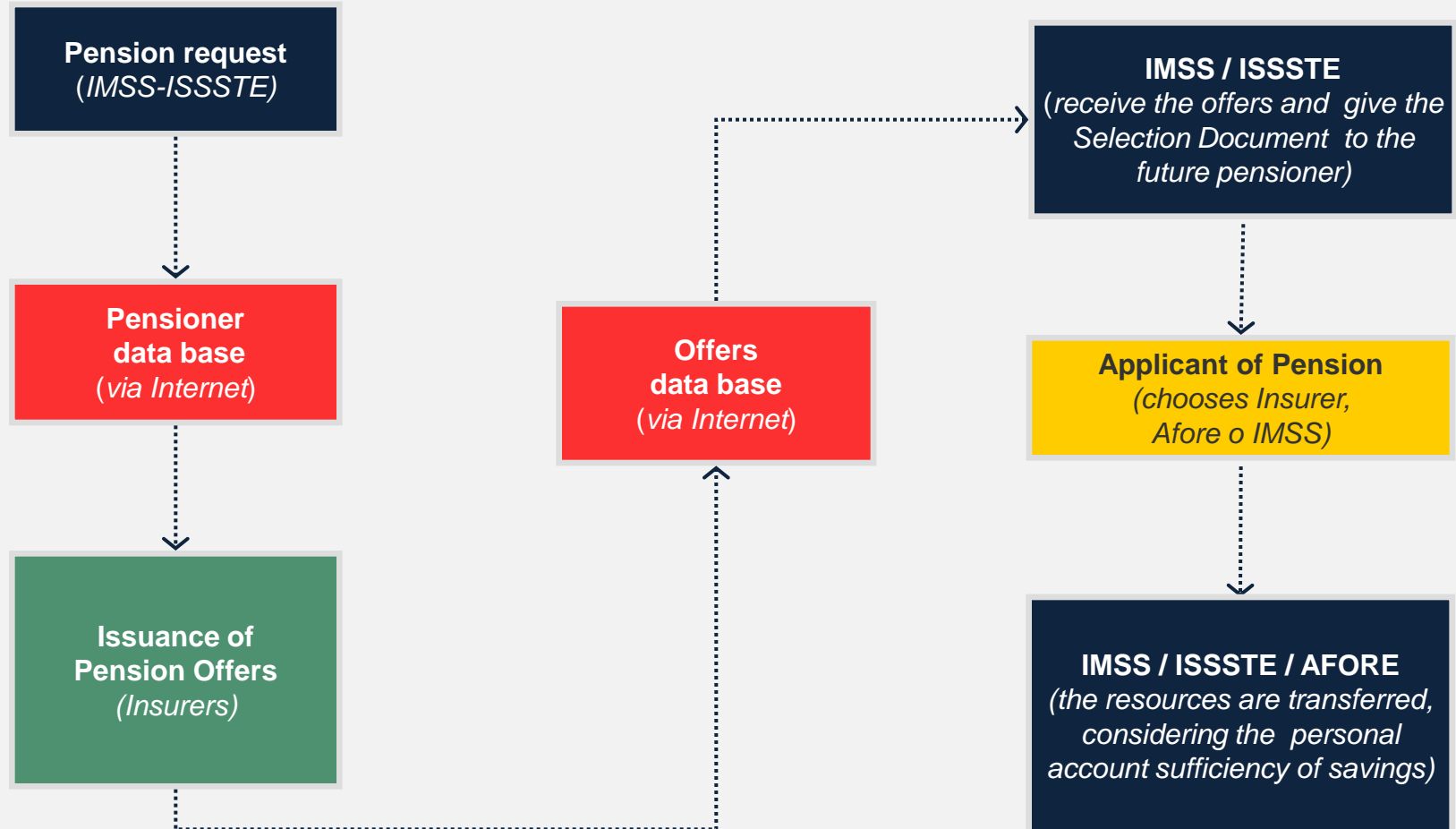
Bienvenido(a) al portal interinstitucional de los Seguros de Pensiones Derivados de las Leyes de Seguridad Social.

Si eres una persona que próximamente va a tramitar su solicitud de pensión ante el IMSS (www.imss.gob.mx) o el ISSSTE (www.issste.gob.mx) te recomendamos que visites la sección de preguntas frecuentes en este portal.

Si tienes alguna duda adicional respecto de tu solicitud de pensión, puedes contactar los teléfonos LADA sin costo que ponen a tu disposición el IMSS (01 800 623 23 23) y el ISSSTE (01 800 001 20 07).

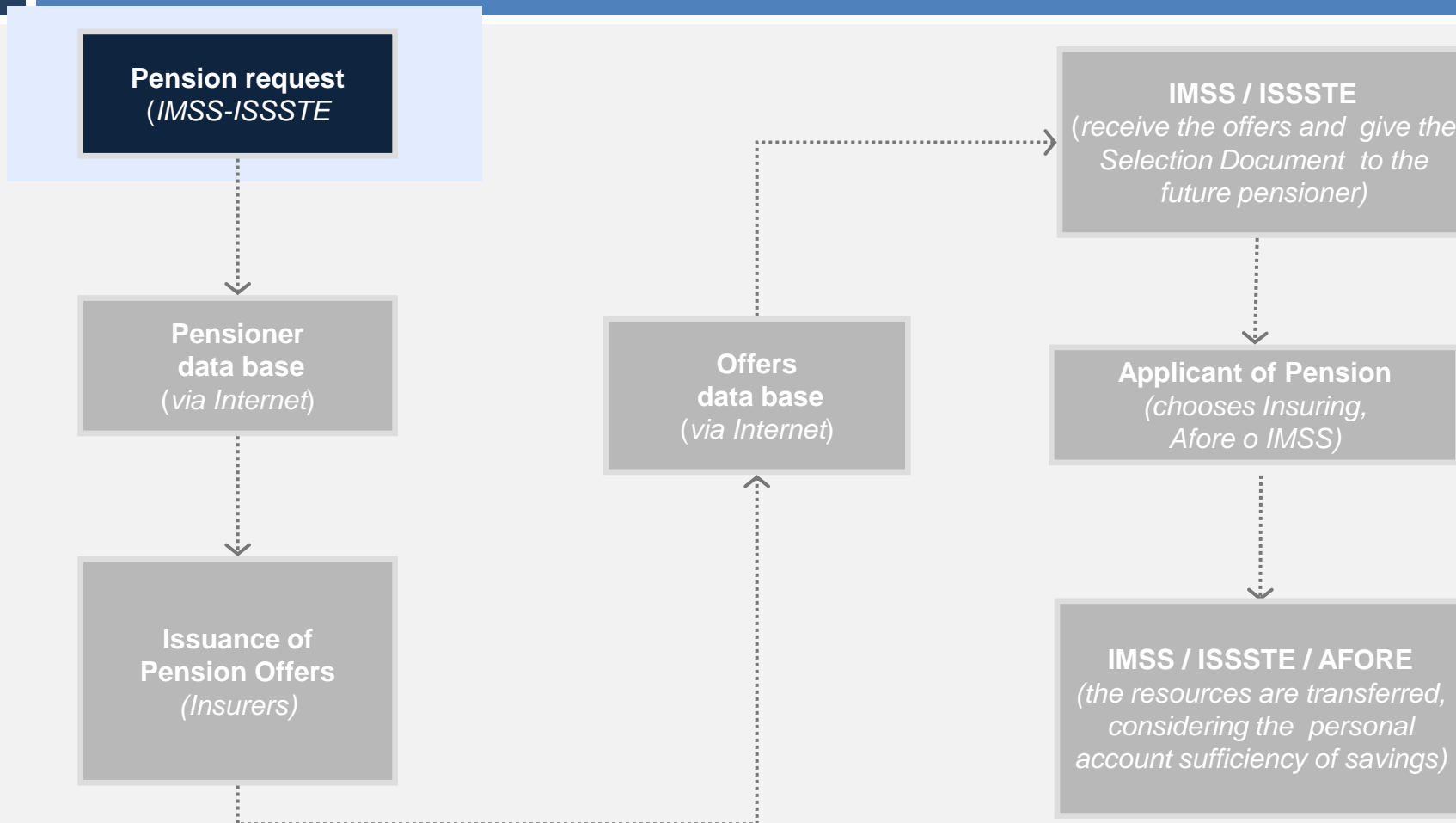


New operative scheme diagram



New operative scheme

beginning of the process



New operative scheme

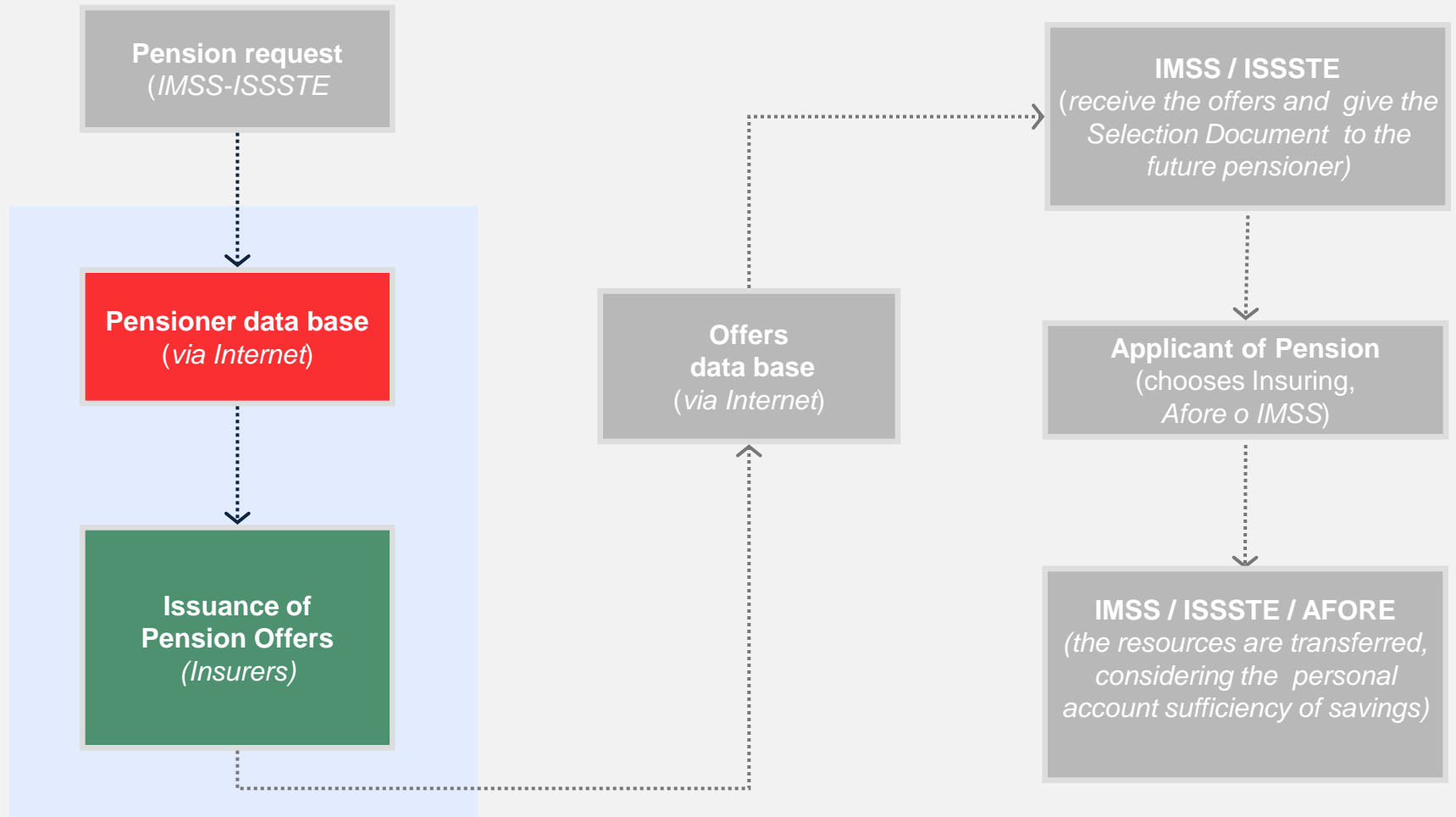
beginning of the process



- ▣ Those workers eligible for a pension approach their respective Social Security Institute to begin the process to get their pension.
- ▣ Through this system the information about eligible workers and their beneficiaries is posted into the web-page, and it is available to the insurers, without the applicants personal identification data.

New operative scheme

SUC-IMSS y SUC-ISSSTE



New operative scheme

SUC-IMSS y SUC-ISSSTE



- The Unique Quotation Systems (SUC) allows the insurance carriers to calculate, on homogeneous bases, the “pension payments,” considering the discount interest rate that they are able to offer and the biometric bases that reflect their estimation of survival.
 - According to the LSS and LISSSTE, the procedures to estimate the single premium (Monto Constitutivo) for the annuity are responsibility of a particular Committee that establishes a predefined methodologies of calculation.



Donde:

$P_{i,t}^{(n)}$ es la probabilidad que sobreviven j hijos de n originales en el año k .

$b_1(0)$ es el beneficio a pagar por los derechohabientes considerando que el cónyuge sobrevive

$b_2(0)$ es el beneficio a pagar por los derechohabientes considerando que el cónyuge ha muerto

$$P_{i,t}^{(n)} = \begin{cases} 1 & s=0 \\ \prod_{s=1}^n p_{i,t}^{(s)} & s=1 \\ 0 & s=2,3,4,\dots,n \end{cases}$$

$p_{i,t}^{(s)}$ no es inválido si $(x_{i,t})$ es inválido

$$b_1(0) = \max\{CB_{i,t} \times (1 + 0.15 + j \times 0.1 + AA), PMG\} + \frac{1}{12} \times \max\{CB_{i,t}, PMG\}$$

$$b_2(0) = \begin{cases} \max\{CB_{i,t} \times (1 + 0.15 + j \times 0.1 + AA), PMG\} + \frac{1}{12} \times \max\{CB_{i,t}, PMG\} & j=0 \\ \max\{CB_{i,t} \times (1 + 0.15 + j \times 0.1 + AA), PMG\} + \frac{1}{12} \times \max\{CB_{i,t}, PMG\} & j=1,2 \end{cases}$$

Donde:

b_1 es el beneficio a pagar por el sobreviviente considerando

b_2 es el beneficio a pagar por el sobreviviente consid

$AA = \frac{1}{12} \times \sum_{k=1}^{12} p_{i,t}^{(k)} \times (p_{i,t}^{(k)} \times b_1 + (1-p_{i,t}^{(k)}) \times b_2) \times v^k$

$PMG = A_{i,t}^{(n)}$

$Invalida(0)$ con cónyuge sin hijos

$Invalida(0) = \frac{1}{12} \times \sum_{k=1}^{12} p_{i,t}^{(k)} \times (p_{i,t}^{(k)} \times b_1 + (1-p_{i,t}^{(k)}) \times b_2) \times v^k$

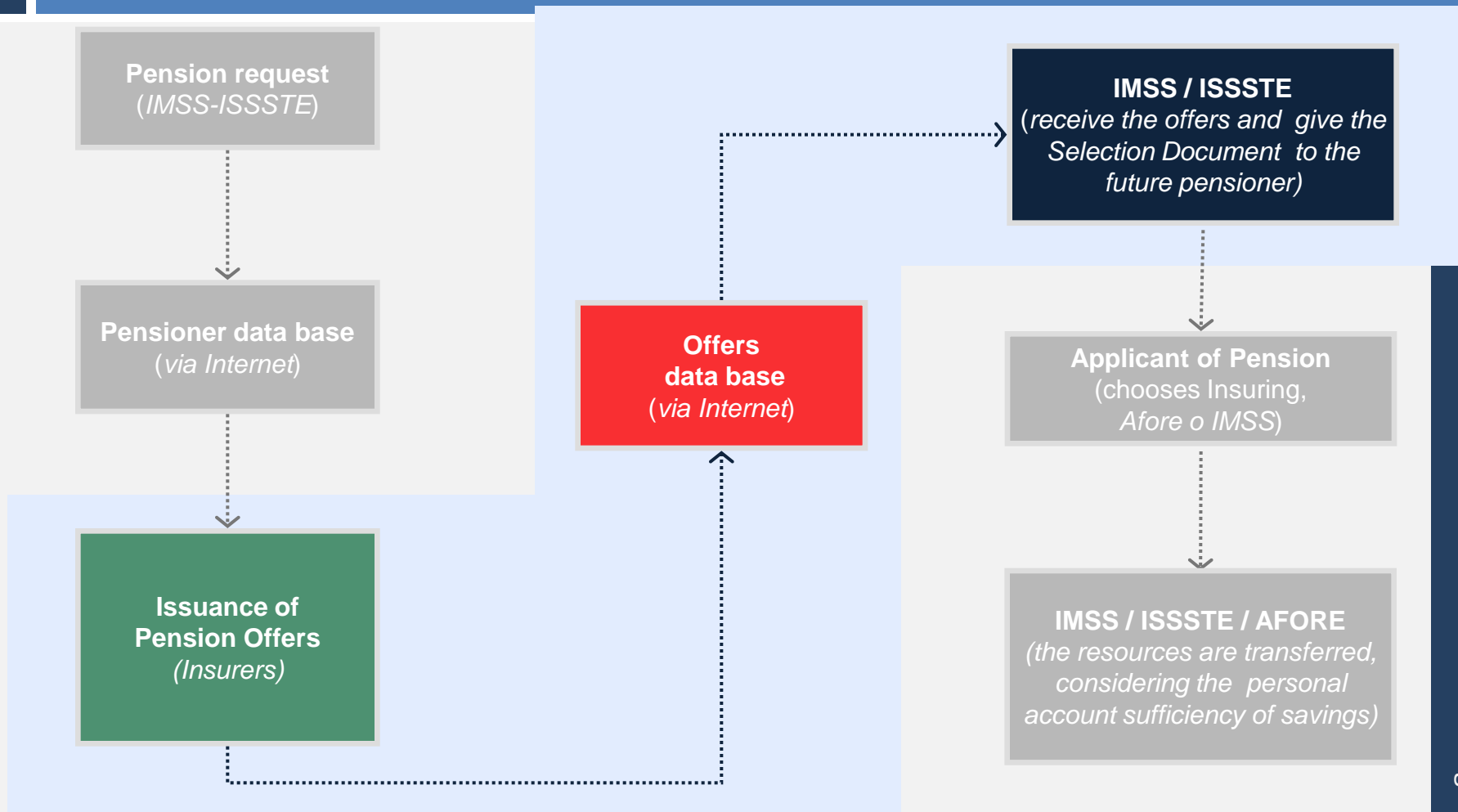
$PRESI = A_{i,t}^{(n)}$

$PRESI = \max\{CB_{i,t} \times (1 + 0.15 + j \times 0.1 + AA), PMG\} + \frac{1}{12} \times \max\{CB_{i,t}, PMG\}$

$PRESI = A_{i,t}^{(n)}$

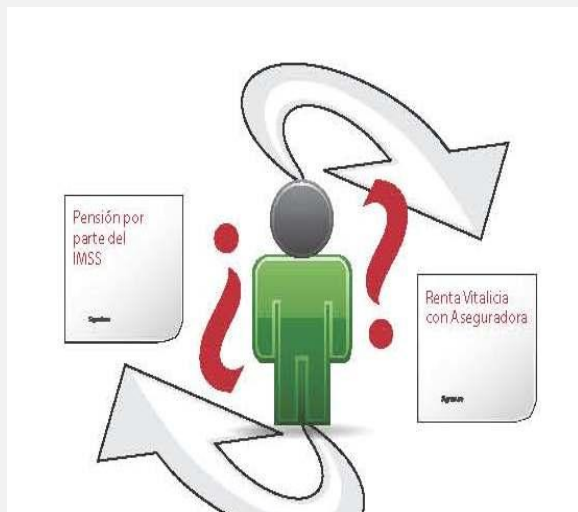
New operative scheme

Inter-institutional Website



New operative scheme

Inter-institutional Website



Through the SAOR, the insurers send their offers to the social security institutes, eliminating the intermediation of insurance agents.

The new electronic quotation system has been designed to improve market transparency and ensure that retirees effectively get the best quotes

Pensión de Invalidez y Vida, Invalidez, Ley 73 o Ley 97

Ley 73 (IMSS)		Ley 97 Renta Vitalicia (Aseguradora)					
Pensión mensual LSS)*	Aguinaldo Anual**	Institución de Seguros	Pensión mensual (LSS)	Beneficio adicional mensual	PENSIÓN MENSUAL TOTAL*	Aguinaldo Anual**	Pensión "máxima" mensual***
\$	\$	Aseguradora 5	\$	\$	\$	\$	\$
		Aseguradora 4	\$	\$	\$	\$	\$
		Aseguradora 3	\$	\$	\$	\$	\$
		Aseguradora 2	\$	\$	\$	\$	\$
		Aseguradora 1	\$	\$	\$	\$	\$

Si seleccionas Renta Vitalicia, tendrás que elegir entre las Aseguradoras que ofrecen este servicio y que están listadas en esta tabla

* Tu pensión crecerá con la inflación en el mes de febrero de todos los años
 ** Este aguinaldo se te pagará en una sola exhibición a más tardar en el mes de diciembre
 *** Cantidad calculada suponiendo que tus aportaciones voluntarias las destinaste a incrementar tu pensión. Esta opción debe ser contratada directamente con la aseguradora después de que se te notifique la resolución de tu pensión.



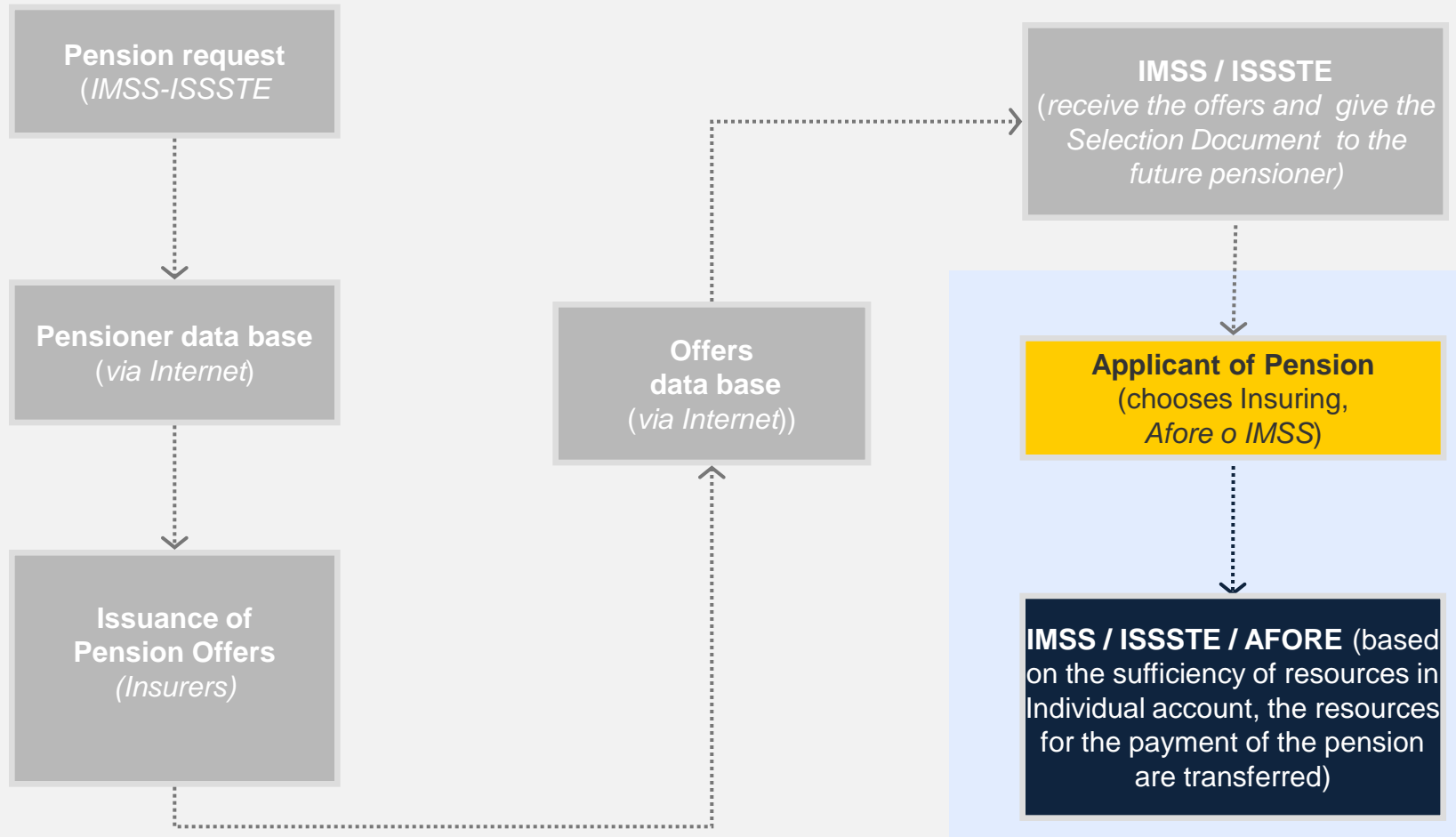
Si tienes dudas o aclaraciones puedes comunicarte al IMSS al:

01 800 623 23 23

Nuevo scheme



selection and transference of funds



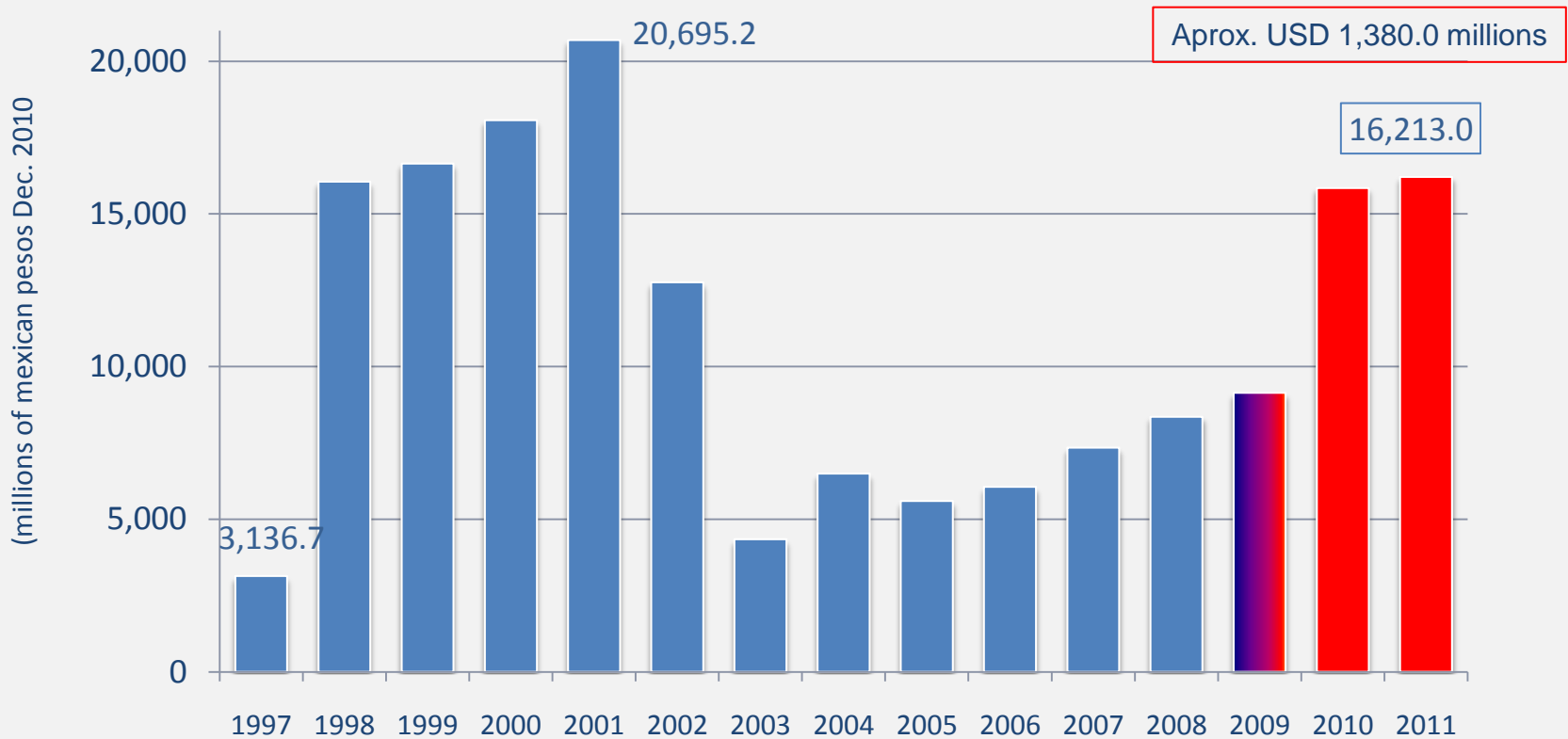
New operative scheme of pensions insurance: some figures

Size of the pensions market

direct real premium 2011



- A more dynamic annuities market will strengthen the *pay-out phase* of the Mexican retirement savings system.



* CNSF Estimation.

Asset-liability matching

market size and liabilities in 2010

- ▣ The size of the market was \$15,849 million Mexican pesos in 2010 (aprox. USD 1,320.75 million):
 - ▣ IMSS = \$12,840 million Mexican pesos (aprox. USD 1,070.0 million)
 - ▣ ISSSTE = \$3,009 million Mexican pesos (aprox. USD 250.75 million)

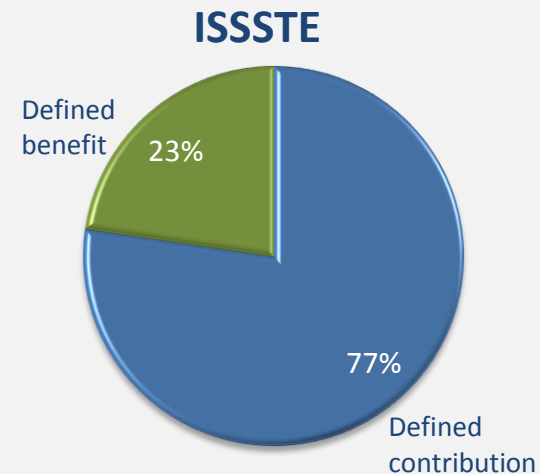
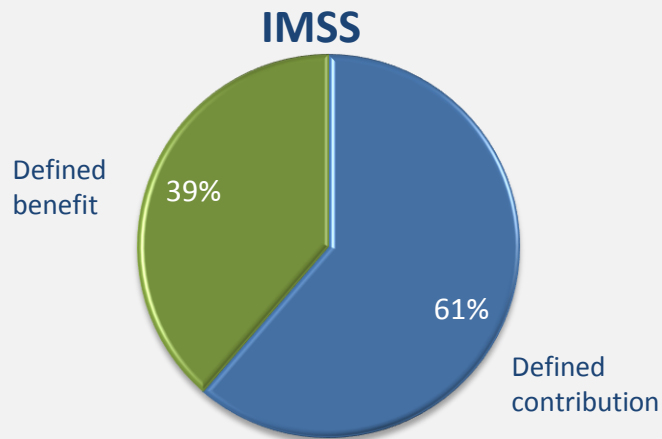
<u>Regime</u>	<u>Non-disabled person</u>		<u>Disabled person</u>		Total	
	Actuarial age	Life expectancy	Actuarial age	Life expectancy	Actuarial age	Life expectancy
IMSS	38.6	41.2	41.4	21.1	40.8	32.4
ISSSTE	53.3	29.7	39.1	15.0		

New Scheme

Pensions



- By March 31, 2011, the IMSS had granted 162,420 pension resolutions (25,790 to an insurance carrier, the rest to the LSS-73), and the ISSSTE had granted 3,437 pensions.



* Accumulated data from August 2009 to March 2011.

Challenges of the Mexican Annuities Market

Challenges



- There are still some challenges in the Mexican annuities market that need to be addressed in the future :
 1. Management (measurement and mitigation) of longevity risk by annuity providers remains a challenge.
 2. In addition, although annuity providers have access to a wider range of financial instruments than in the past, they still face a duration mismatch problem that needs to be continuously addressed.
 3. The separation of the accumulation and retirement phases implies that neither pension funds nor annuity providers are effectively maximizing the individuals' pension wealth over the entire lifecycle.
- During the transition from the accumulation phase to the pay out phase, a problem has been evident:
 - Two persons with identical characteristics (*i.e.* age, sex, professional career and savings) can get significantly different pension amounts at retirement, due to the fact that they obtained their pension in two different periods in the time.

Challenges



- There are still some challenges in the Mexican annuities market that need to be addressed in the future :
- 4. It would be interesting to evaluate if it is possible to cross the horizons of Pension funds- and Life annuity:
 - That AFORES “watch” their investments beyond the date of retirement, investing in very long term bonds and
 - On the other side, allowing workers to invest their pension resources before their time to retirement.
 - To smooth the transition from the phase of accumulation to the pay out phase, various annuity schemes have been analyzed internationally. Their purpose is to allow for more flexibility in the use of accumulated resources by workers, and to cope better with specific needs and market opportunities for the pensioners.



SESSION 5. ANNUITIES

“CHALLENGES AND DEVELOPMENT OF THE MEXICAN ANNUITIES MARKET”