



# 2009 CAMAR Fall Meeting

## Workers' Compensation - How Long Is The Tail?

Presentation by

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2009 CAMAR Fall Meeting  
Workers' Compensation – How Long Is The Tail?

- A Clarifying Question –

What Is The “Tail”?

# 2009 CAMAR Fall Meeting

## Workers' Compensation – How Long Is The Tail?

- Some Possible Answers –
  - The period of time over which payments for a given accident year or policy year continue to be made
  - The point after which anticipated loss development is “small” or “very small”
  - The part of our loss payout extending after reasonable prospects for return-to-work have ended
  - The extended part of our loss payout for which we do not have detailed historical data (like age-to-age factors)
  - Other

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## Workers' Compensation – How Long Is The Tail?

- An Alternative Question –
  - How Big Will The Tail Be?
    - (...For Various Past Periods (Reserving))
    - (...For a Future Period(s) (Pricing))



# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

- Some Analysis –

What Portions of Payments Are In the “Tail”?

# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

- Pennsylvania Data - 2009 Loss Cost Filing

- Case Incurred LDFs @ 20<sup>th</sup> Report:

- Indemnity - 1.0039                      Medical – 1.0454

- Implied Paid LDFs at 19<sup>th</sup> Report:

- Indemnity - 1.0511                      Medical - 1.1630

# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

## “Old Time” PCRB Tail Factor Methodology

- Paid and case incurred loss data was reported by Policy Year for 20 years (or so)
- Development on older Policy Years was reported in the aggregate
- The calendar year contribution to development on the old (aggregated) Policy Years was thought to be pretty accurate
- The statement of cumulative paid and case incurred for the old (aggregated) Policy Years was not reliable

# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

## “Old Time” PCRB Tail Factor Methodology

- Calendar year contribution to case incurred loss development on the old (aggregated) policy years was compared to the start-of-year case incurred loss for the oldest available individual policy year
- The result plus 1.0 was the loss development “tail factor”
- Key Assumption – All the old Policy Years contributing to the aggregate calendar year loss development were of equal size



# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

## “New” PCRB Tail Factor Methodology

- Calendar year contribution to case incurred loss development on the old (aggregated) policy years is replicated using the following constructs:
  - A next-oldest Policy Year loss amount estimated using the oldest three available individual Policy Years
  - A loss inflation/deflation factor based on observed year-to-year changes in aggregate losses for older available individual Policy Years

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### “New” PCRB Tail Factor Methodology

- Calendar year contribution to case incurred loss development on the old (aggregated) policy years is replicated using the following constructs:
  - A 21<sup>st</sup>-report age-to-age development factor selected based on older available individual years
  - A decay factor in annual LDFs

The two above constructs are adjusted until application of the implied LDFs to the series of Policy Year base loss amounts replicates the observed calendar year case incurred loss development for the old (aggregated) Policy Years

# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

## “New” PCRB Tail Factor Methodology

- Tail Factors Increase (Somewhat) by Recognizing Expected Loss Inflation
  - New:            Indemnity – 1.0039            Medical – 1.0454
  - Old:            Indemnity – 1.0036            Medical – 1.0391
- Implied Case Incurred Loss Development Extends Back to Early 1940's (for 2009 Filing Using Financial Data through 12/31/07)

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# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

- Another Question –

Do We Expect The Tail To Change?

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## Workers' Compensation – How Long Is The Tail?

- Possible Answers and Reasons Why –
- Yes, We Expect The Tail To Get **Longer/Larger**
  - Claimant Longevity
  - Benefit/Price Inflation
  - More Permissive Reopening Provisions
  - Medicare Set-Aside Requirements
  - Aging Workforce (Recovery/Vocational Issues)
  - Other?

# 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

- Possible Answers and Reasons Why –
- Yes, We Expect The Tail To Get **Shorter/Smaller**
  - More &/or Better Settlement Options
  - More Effective Treatments
  - Aging Workforce (Reduced Life Expectancy)
  - Other?

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## 2009 CAMAR Fall Meeting Workers' Compensation – How Long Is The Tail?

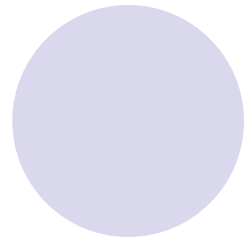
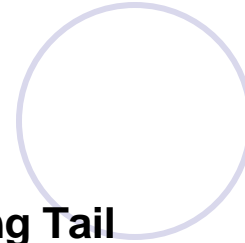
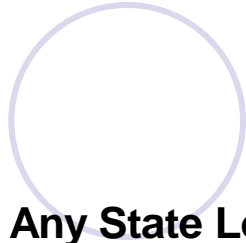
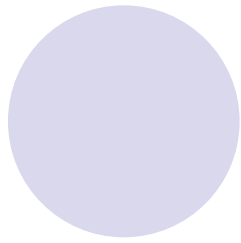
- Possible Answers and Reasons Why –
- No, We Expect The Tail To Be **Stable**
  - Nothing Much is Going On Out There
  - Everything Will Sort of Balance Out in the End



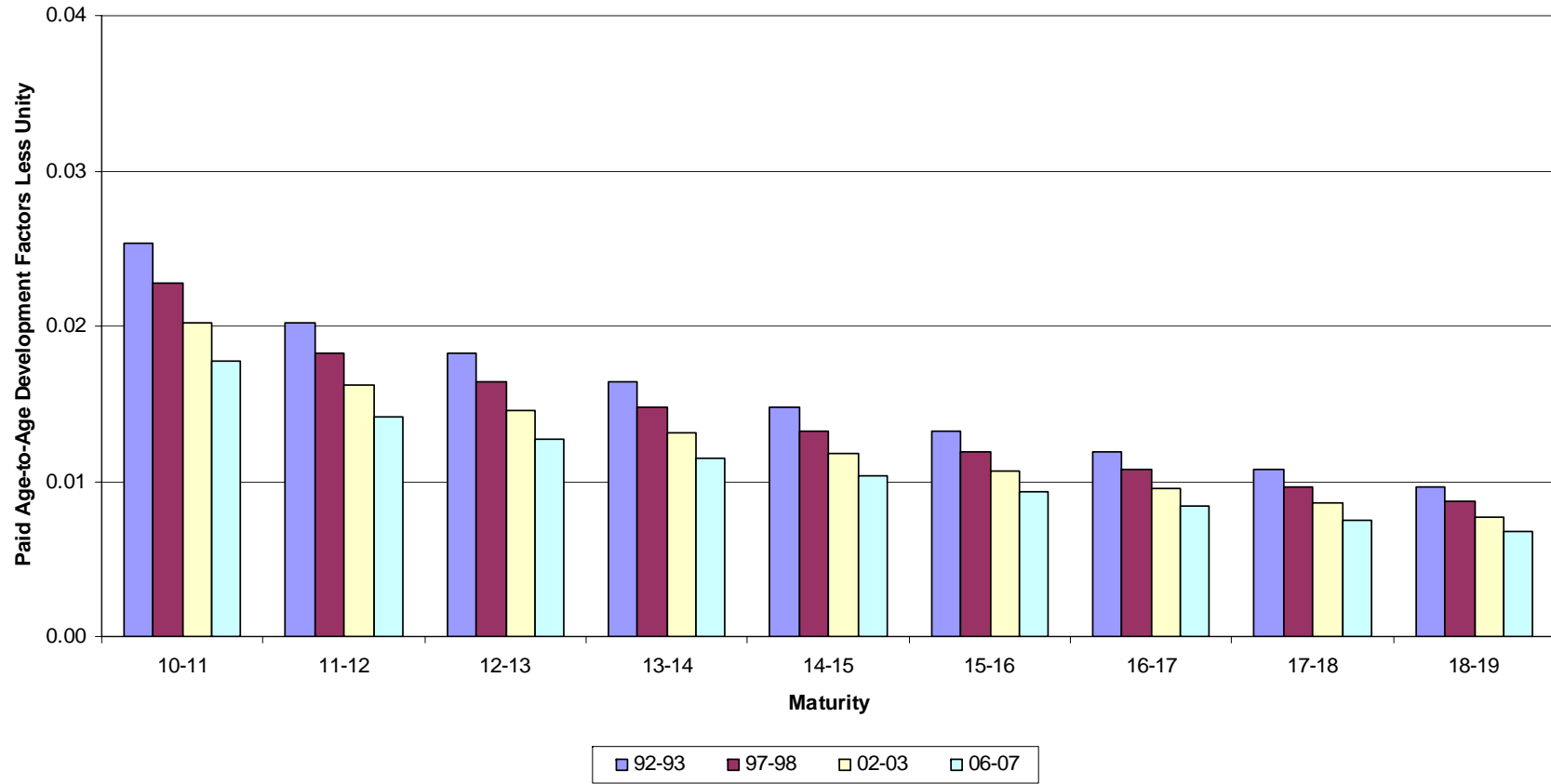
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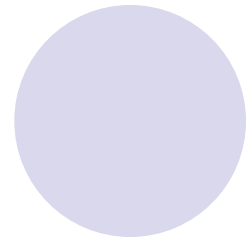
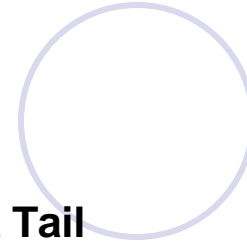
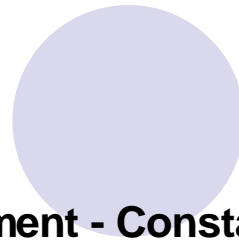
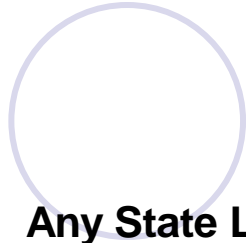
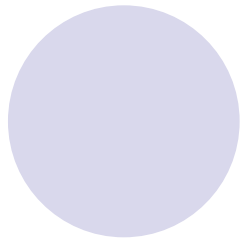
- Some More Analysis –
- How **Has** The Tail Changed Over Time?



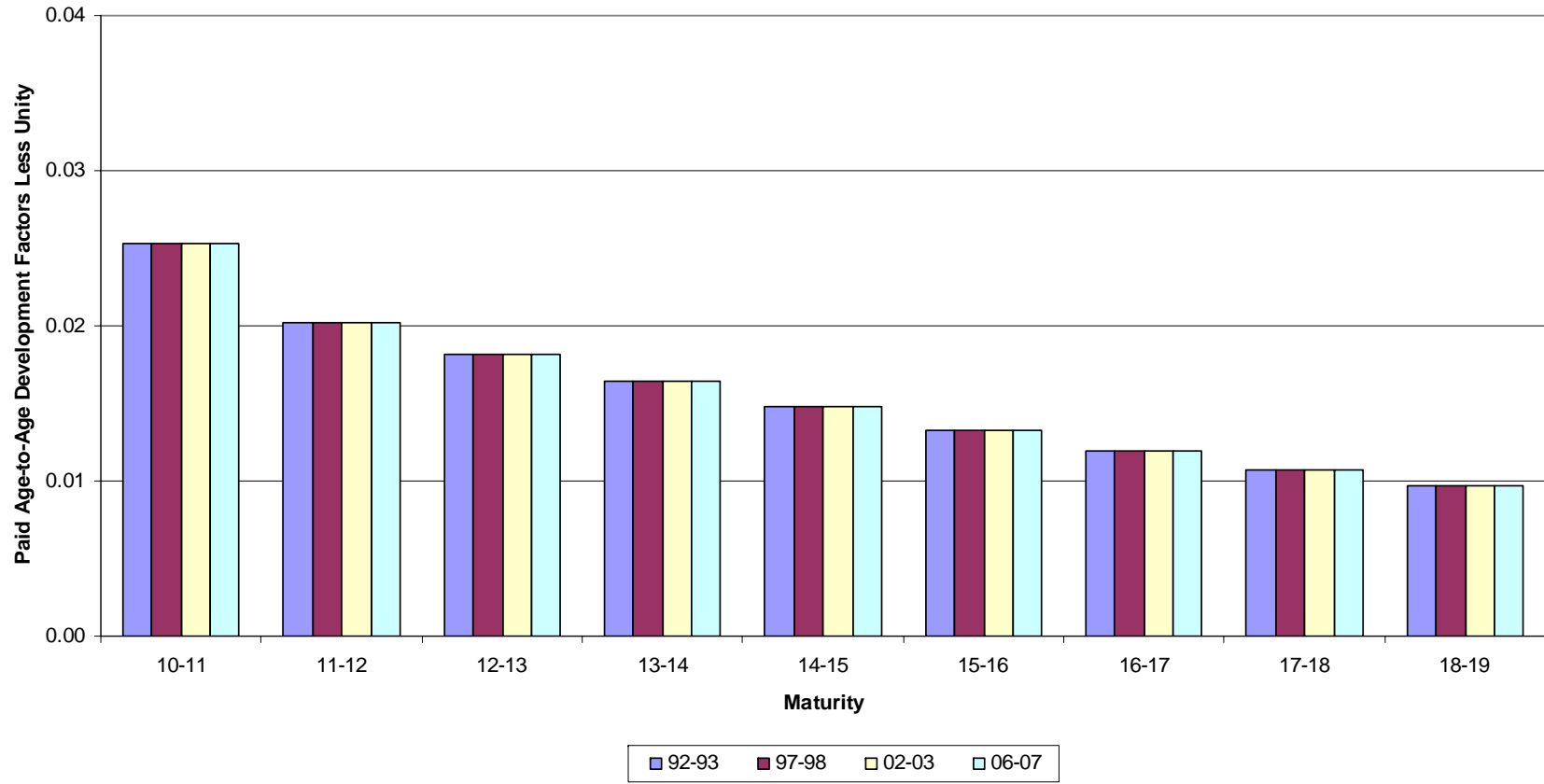


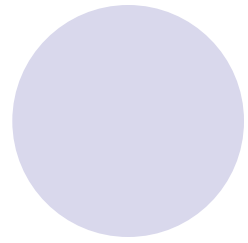
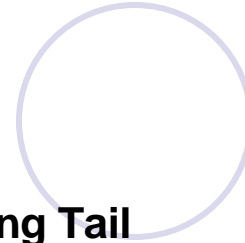
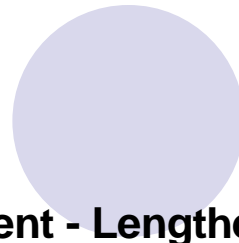
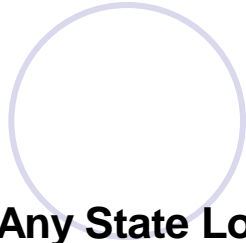
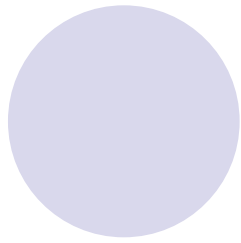
### Any State Loss Development - Shortening Tail



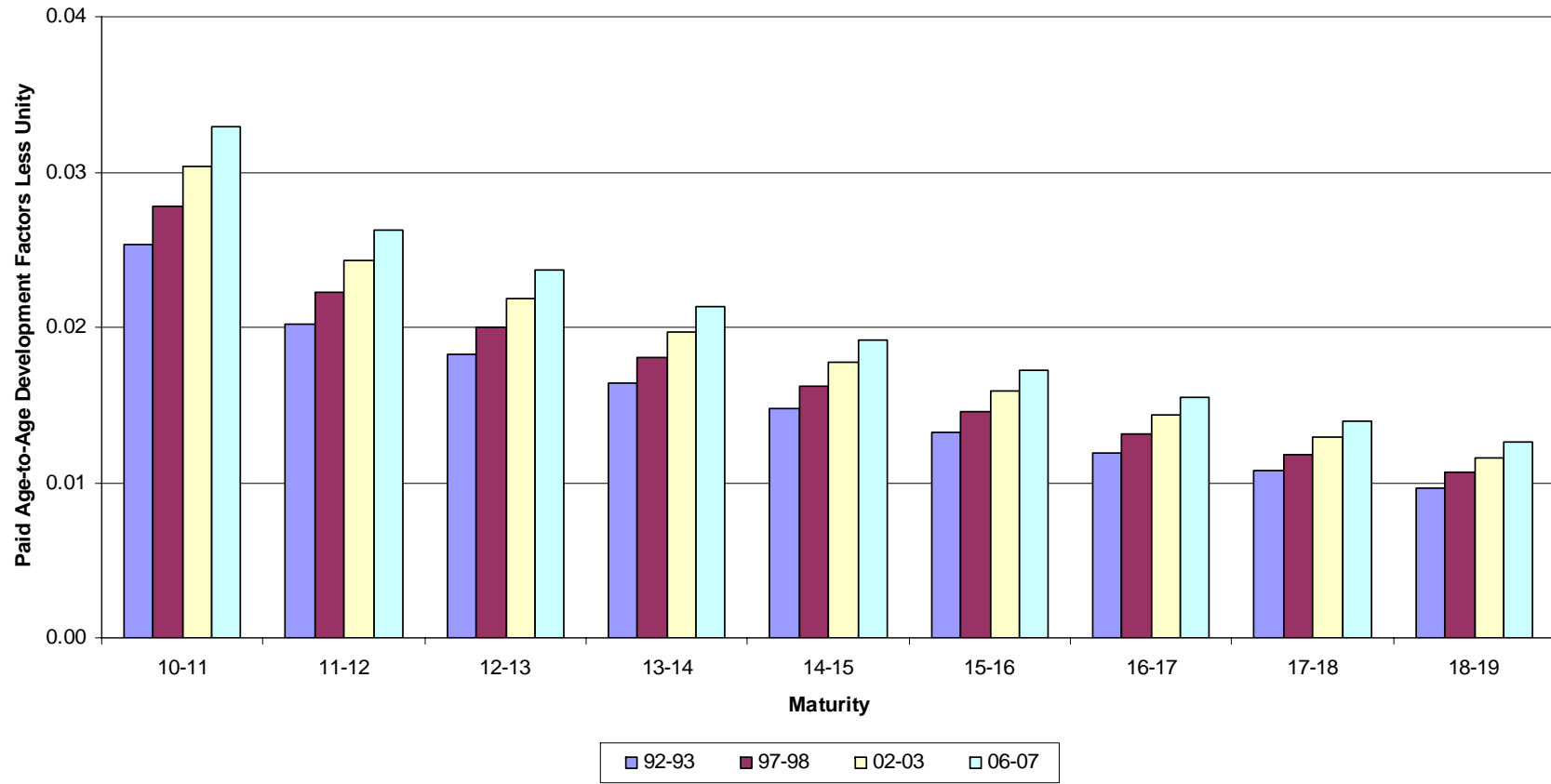


### Any State Loss Development - Constant Tail



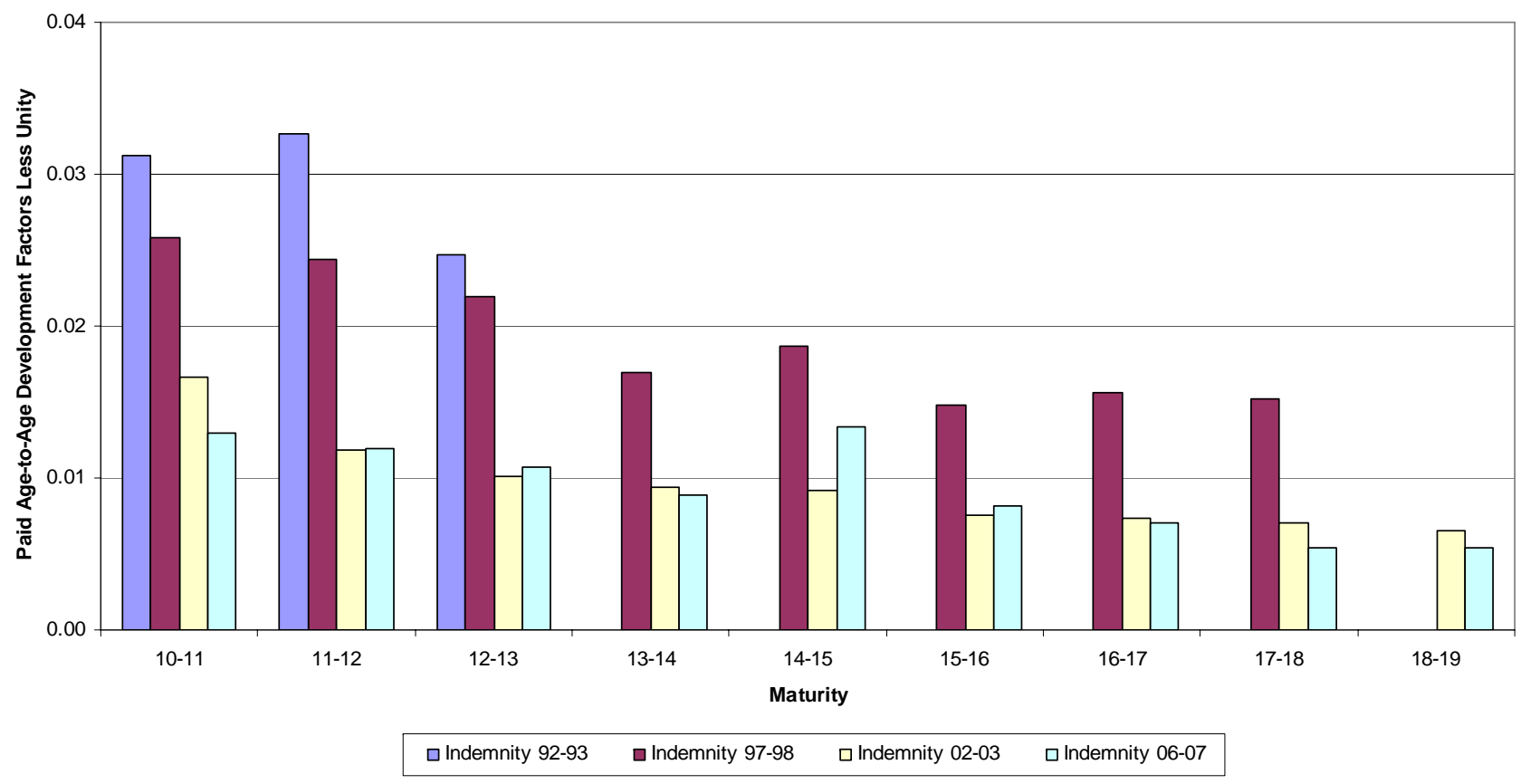


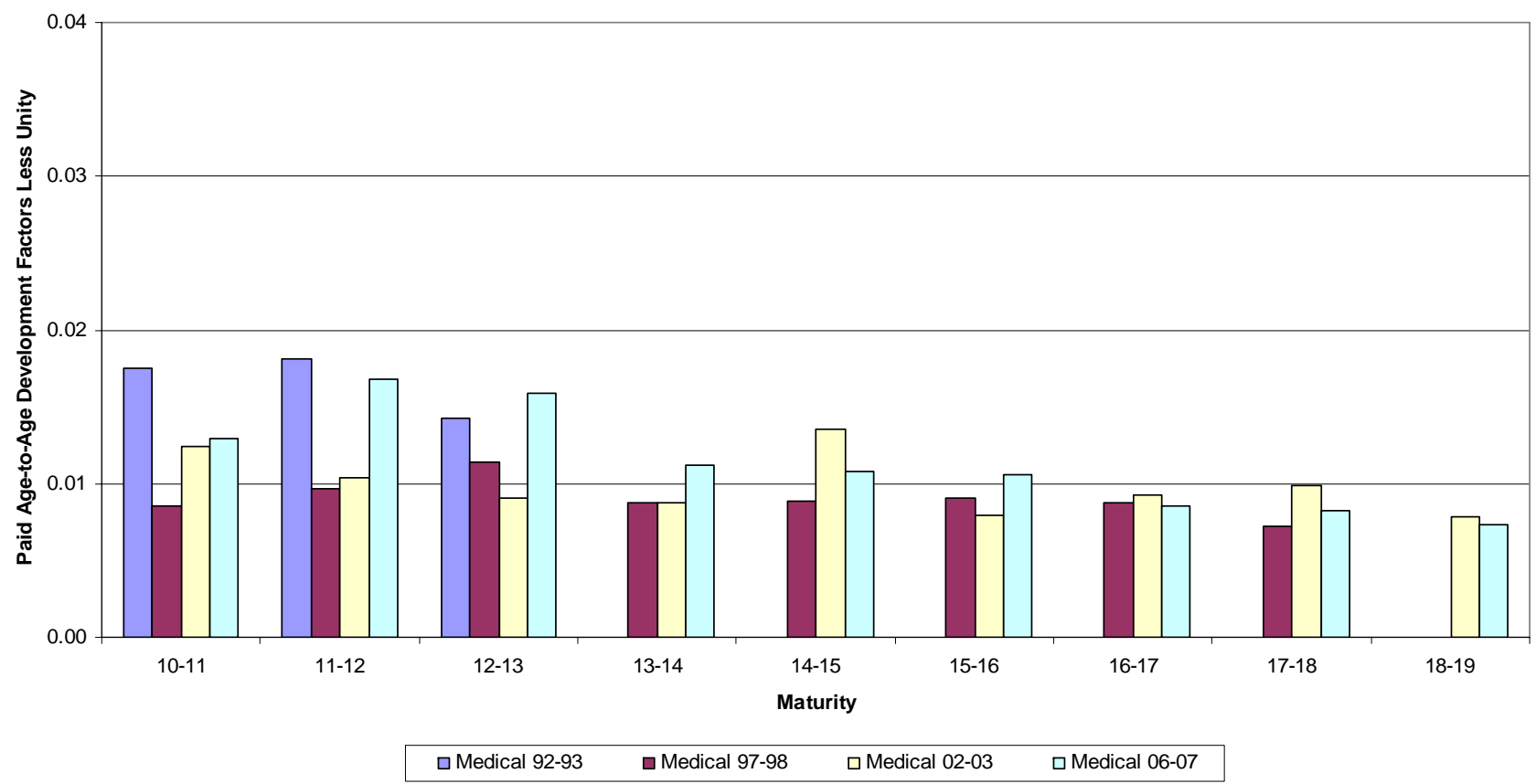
### Any State Loss Development - Lengthening Tail





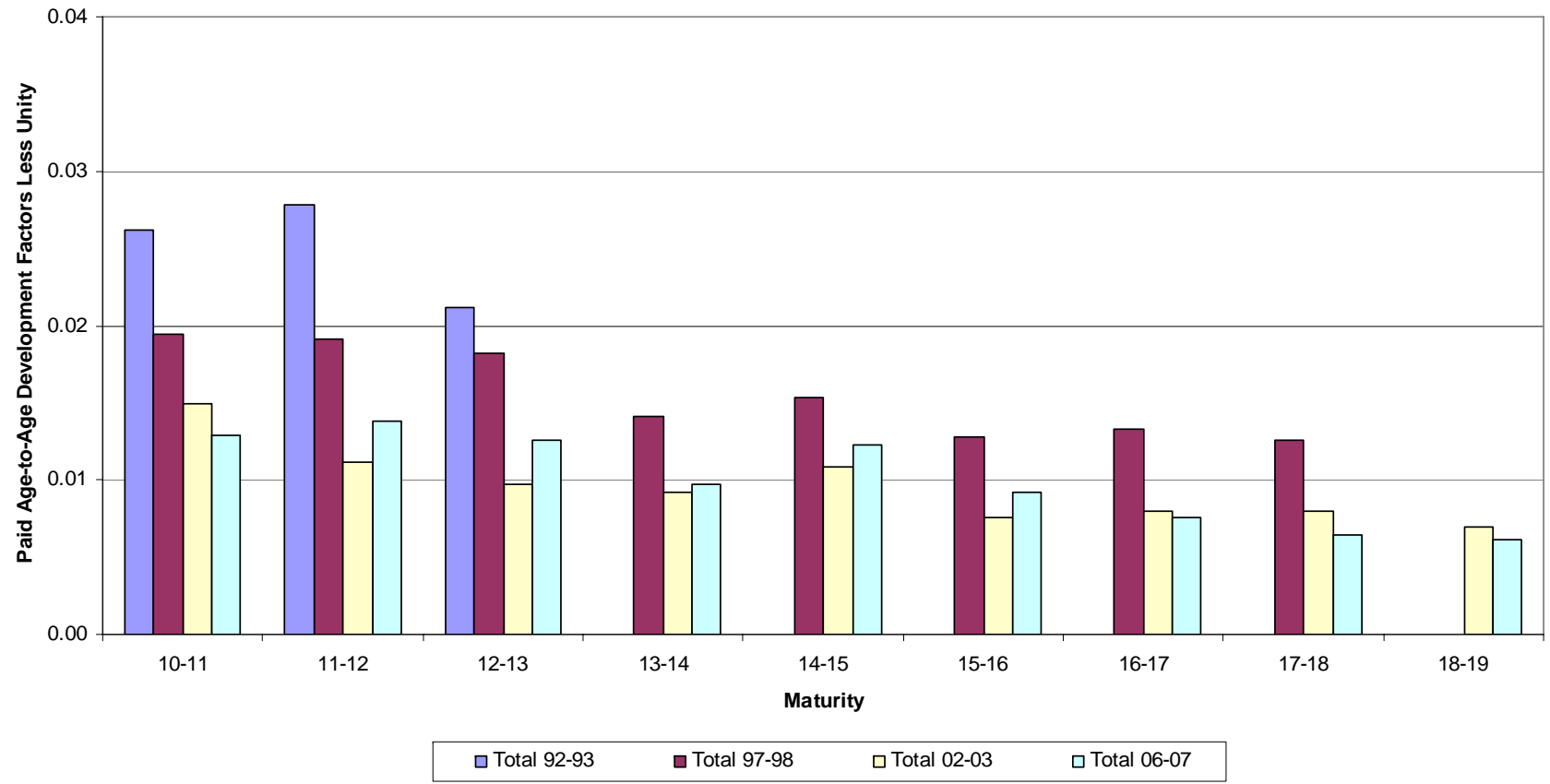
## Pennsylvania Loss Development - Indemnity





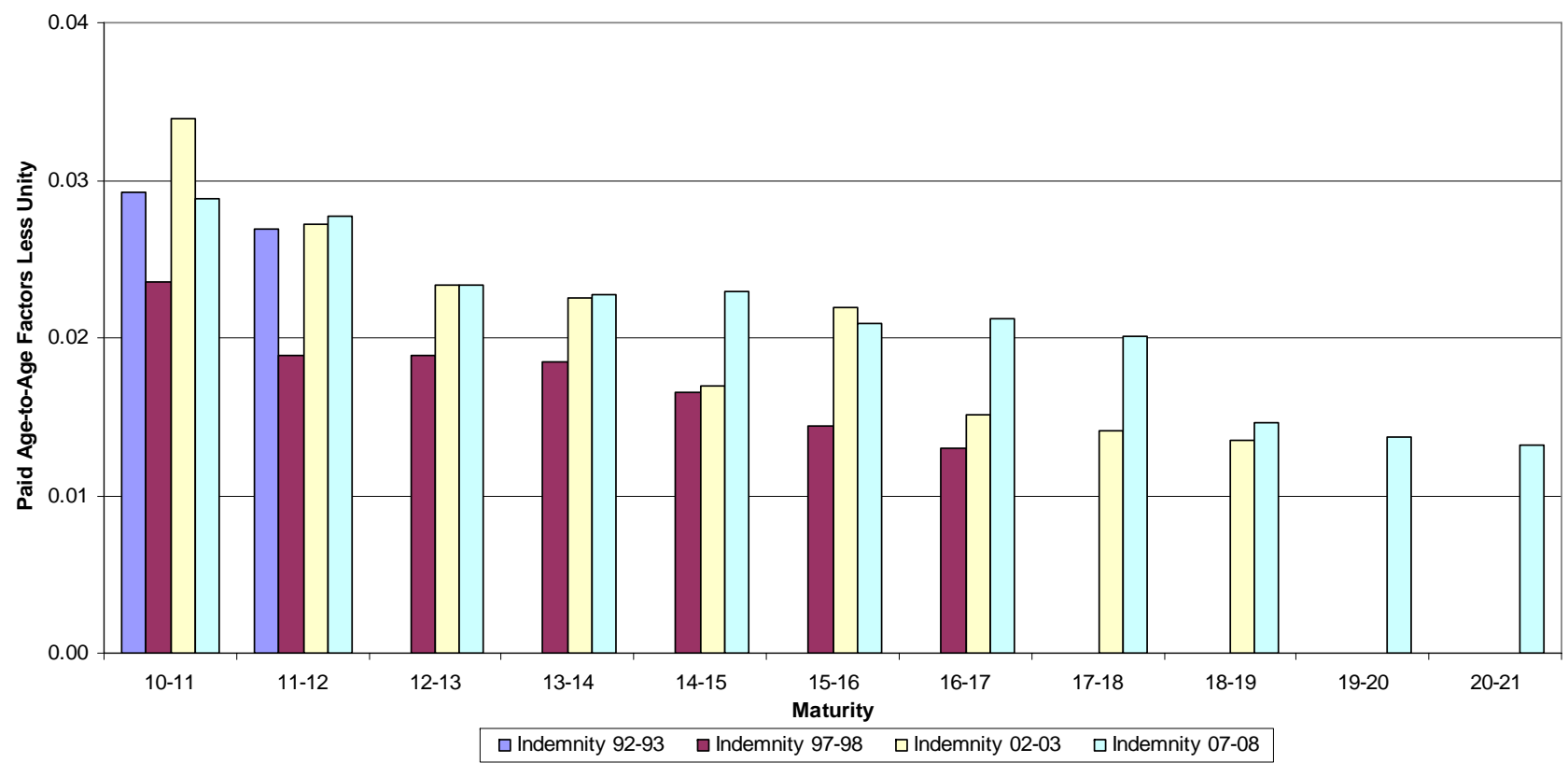


## Pennsylvania Loss Development - Total

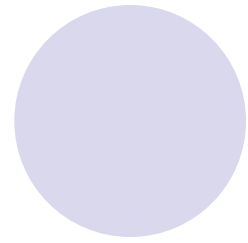
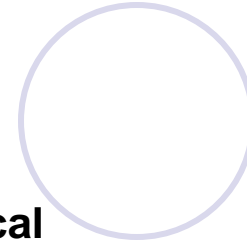
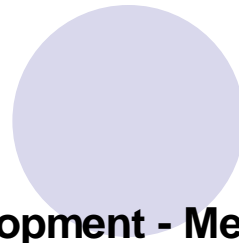
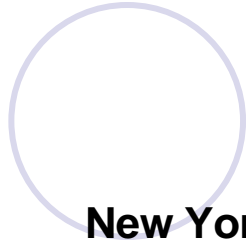
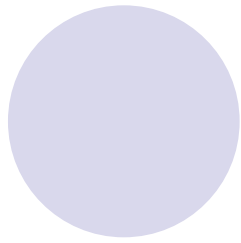




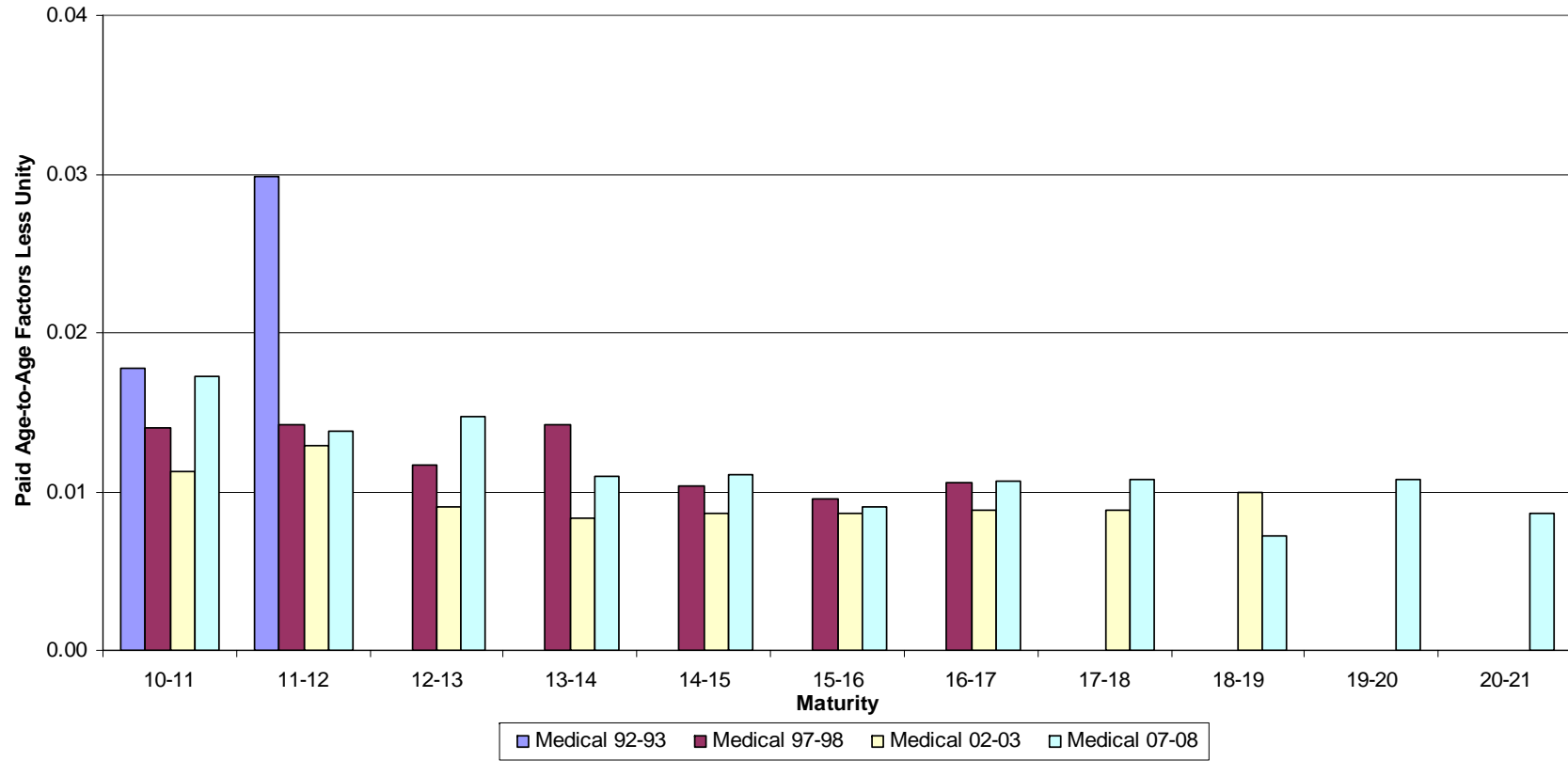
## New York Loss Development - Indemnity



Source: New York Compensation Insurance Rating Board

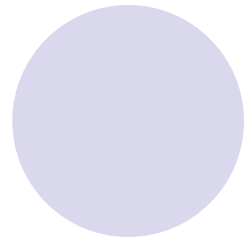
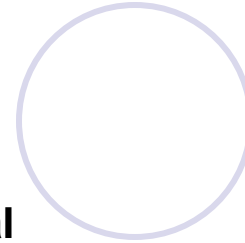
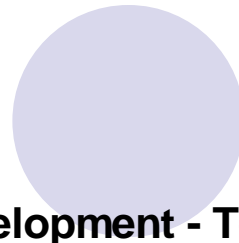
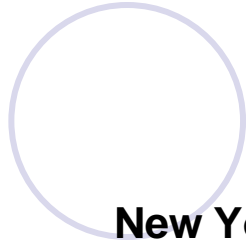
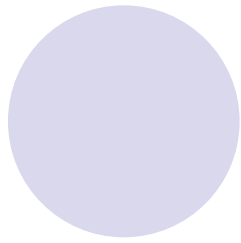


## New York Loss Development - Medical

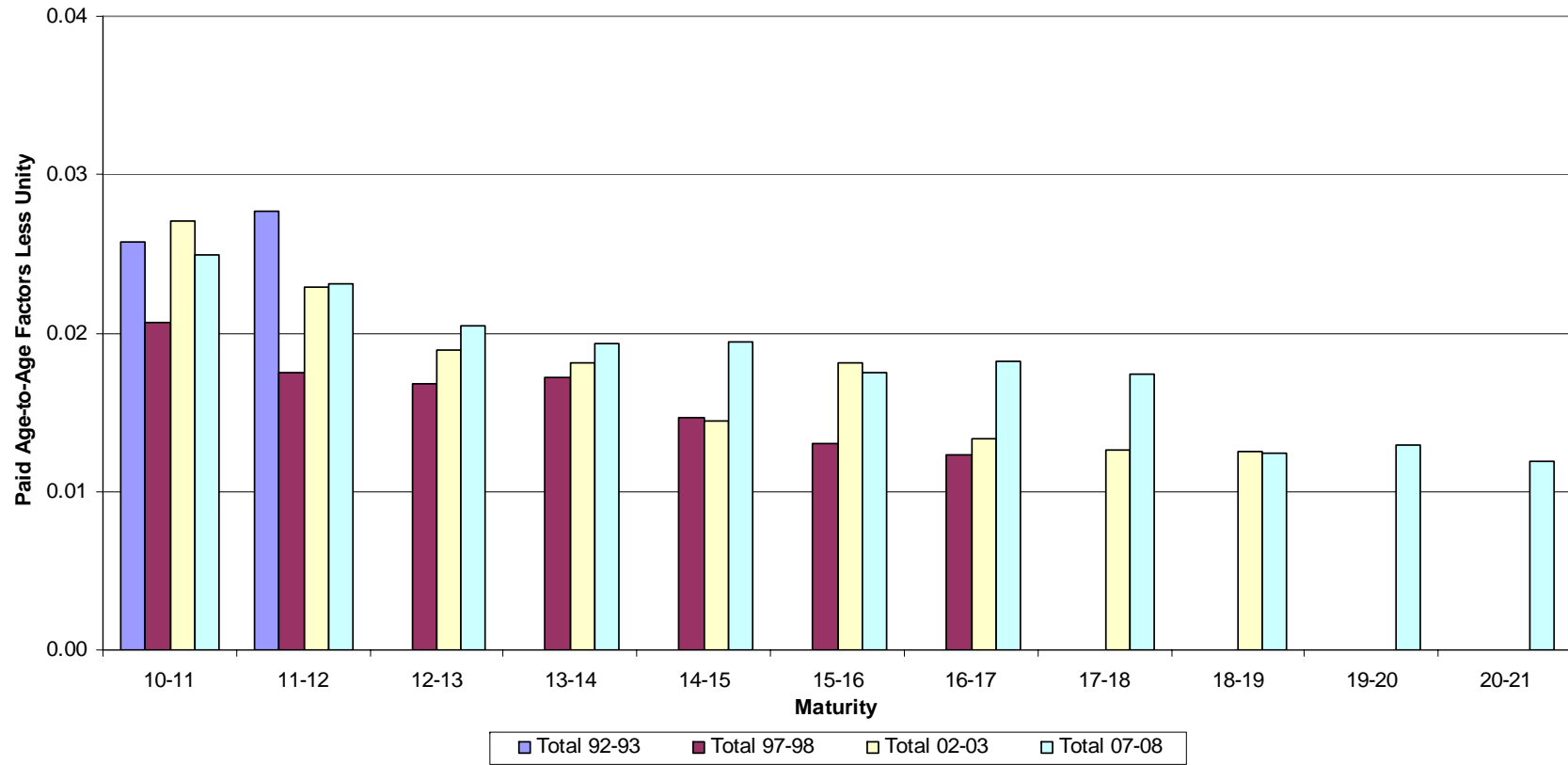


Source: New York Compensation Insurance Rating Board





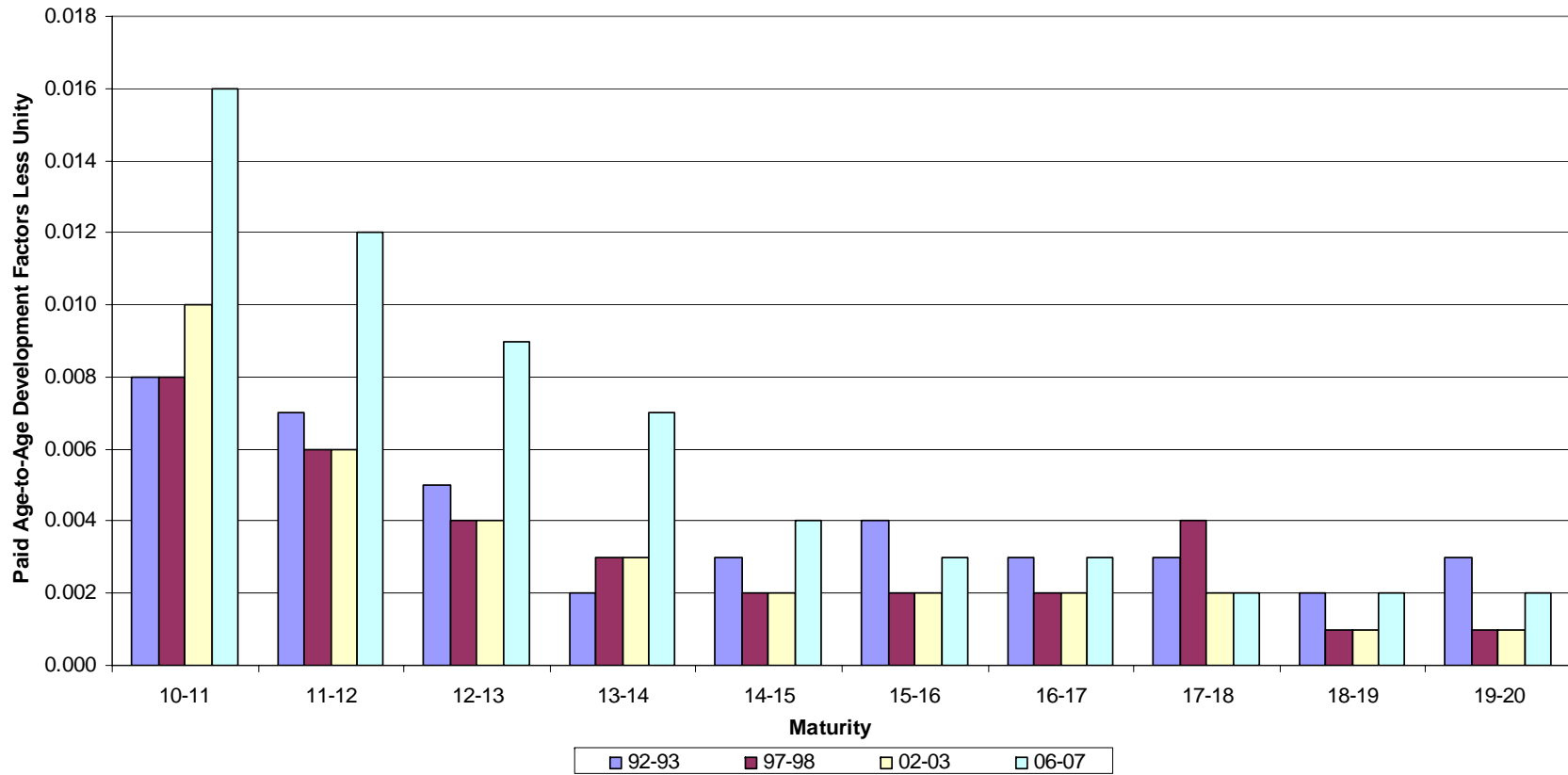
## New York Loss Development - Total



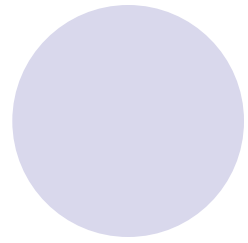
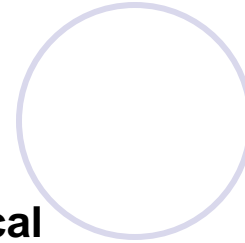
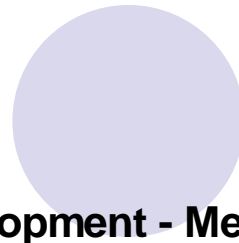
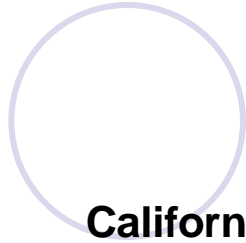
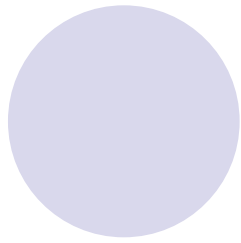
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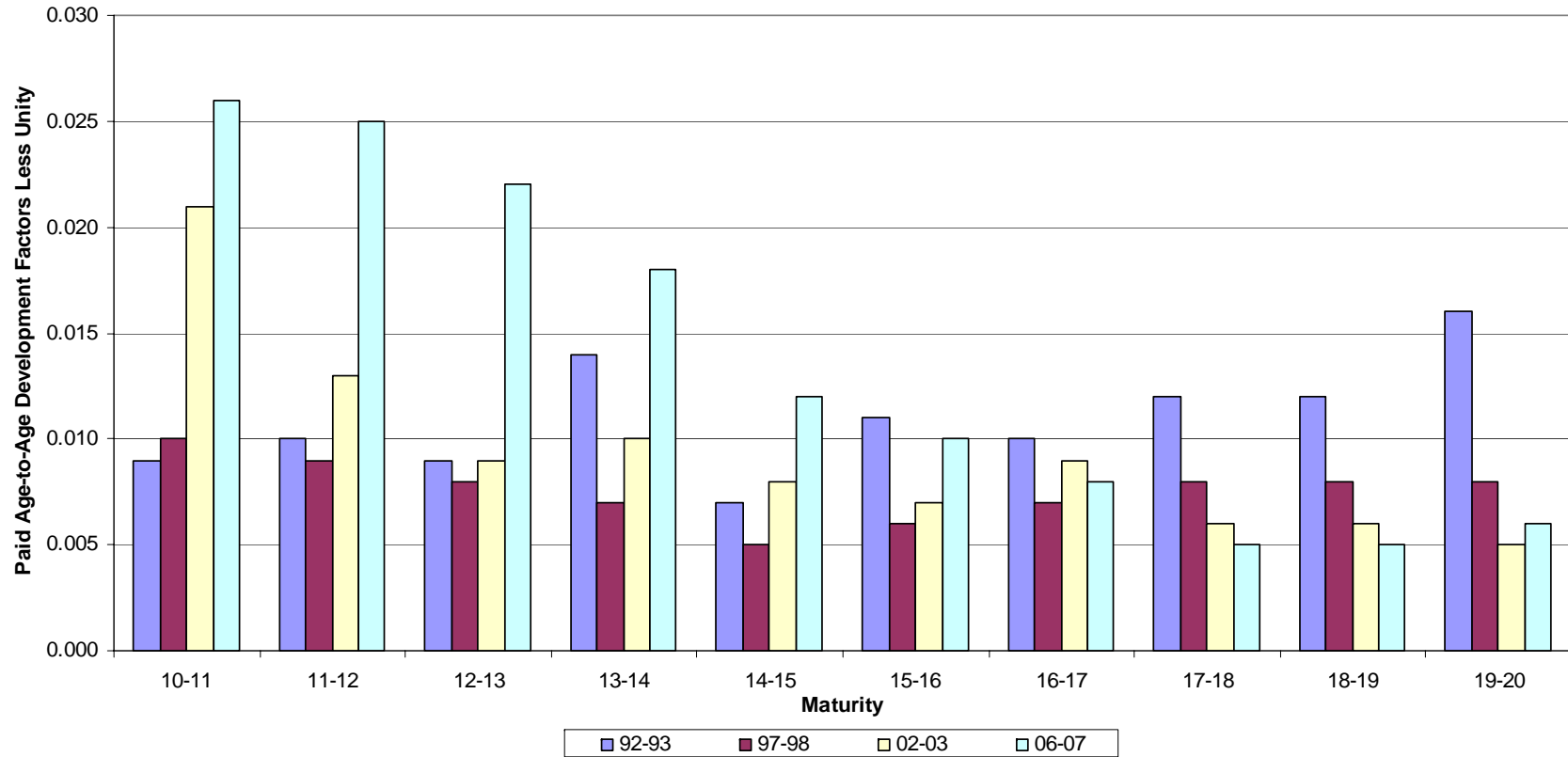
## California Loss Development - Indemnity



Source: Workers' Compensation Insurance Rating Bureau of California

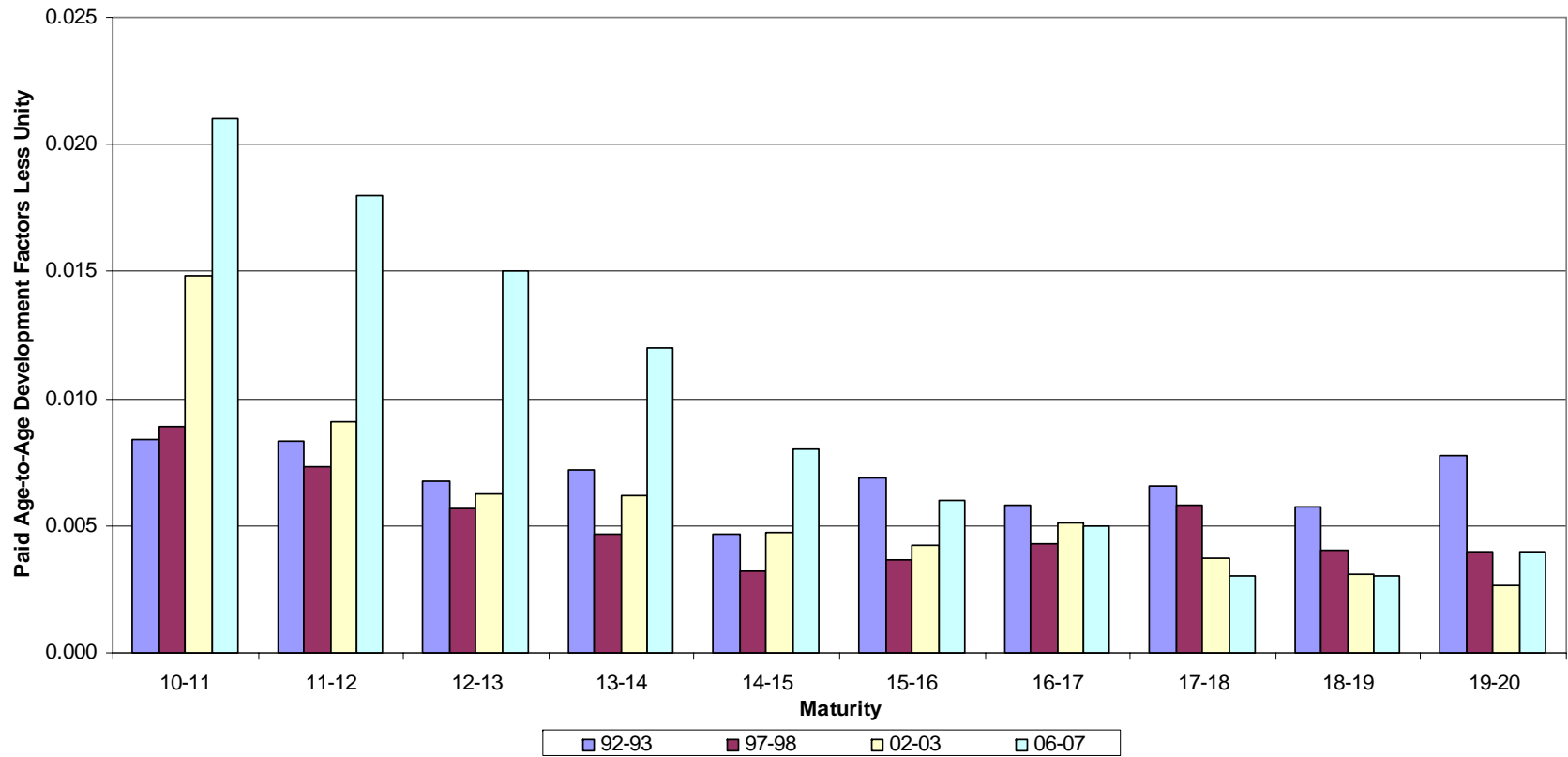


## California Loss Development - Medical



Source: Workers' Compensation Insurance Rating Bureau of California

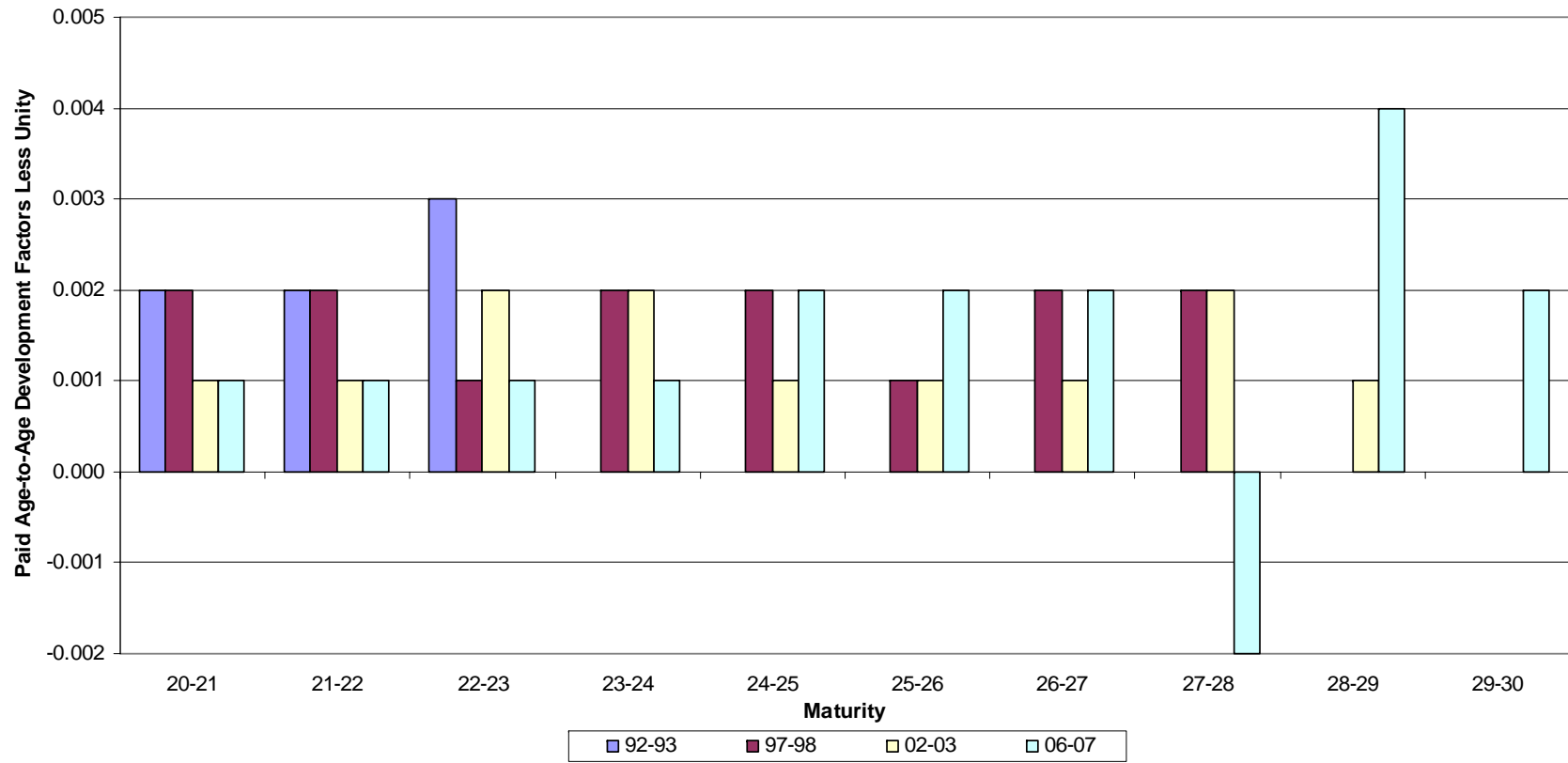
# California Loss Development - Total



Source: Workers' Compensation Insurance Rating Bureau of California



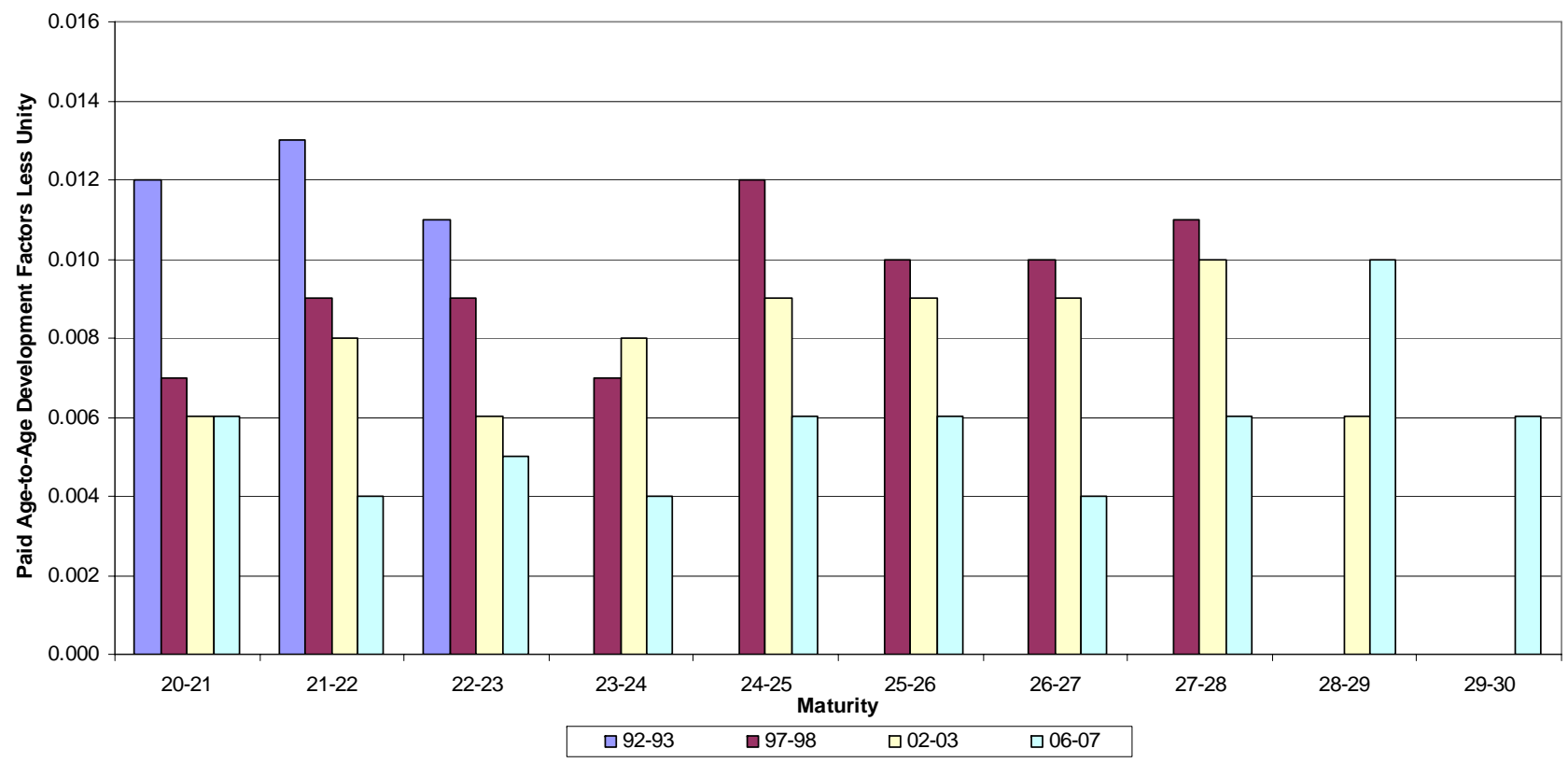
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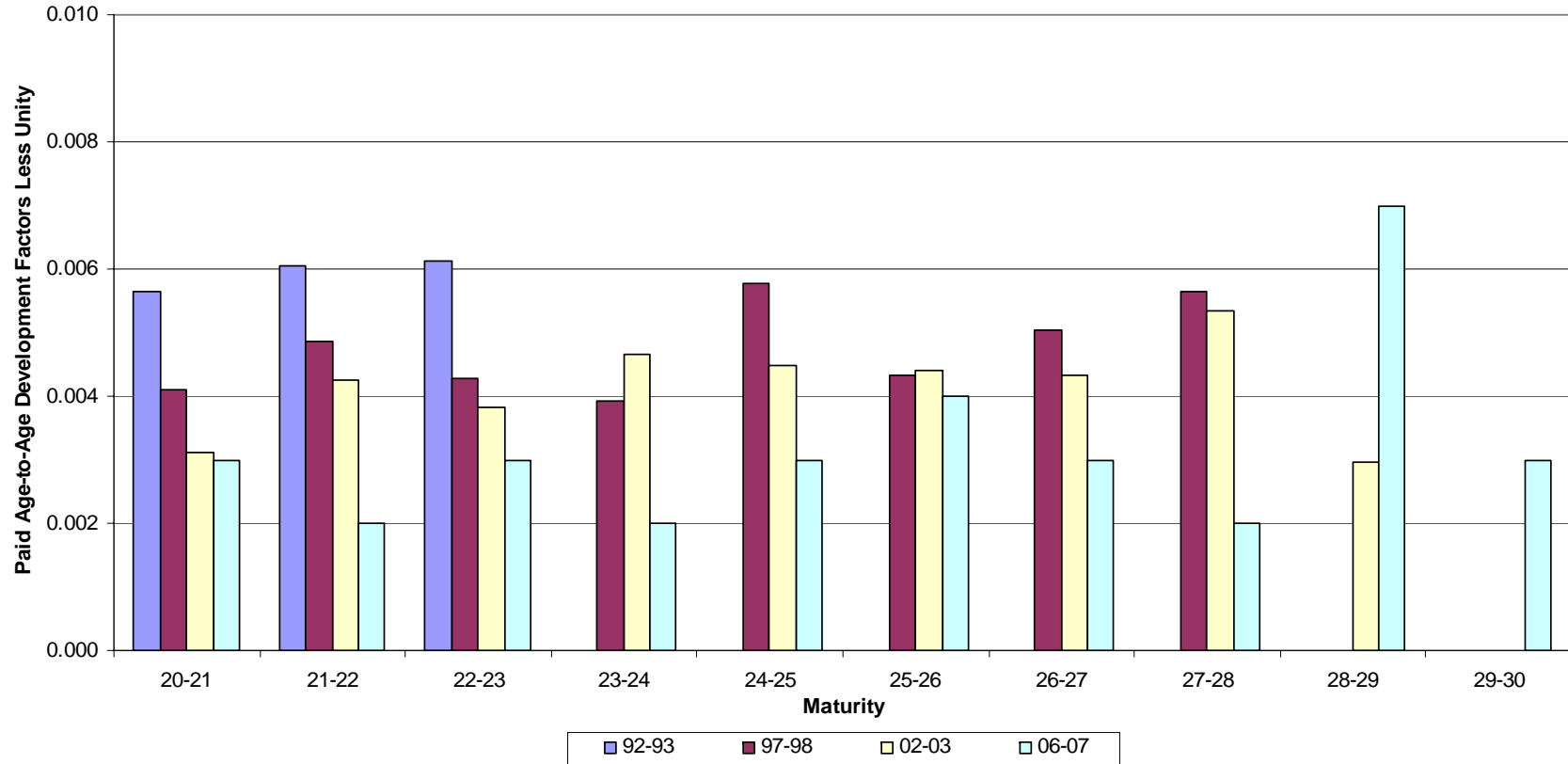
## California Loss Development - Medical



Source: Workers' Compensation Insurance Rating Bureau of California



## California Loss Development - Total



Source: Workers' Compensation Insurance Rating Bureau of California



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